The Journal.

OF THE

Jamaica Agricultural Society.

The more people do the more they can do: he who does nothing renders himself incapable of doing anything: while we are executing one work we are preparing ourselves for undertaking another.

VOL. XXI. FEBRUARY, 1917. No. 2.

BOARD OF MANAGEMENT.

The usual monthly meeting of the Board of Management was held at the office of the Society, 11 North Parade, on Wednesday, 17th January, 1916, at 2 p.m., being fixed by the previous meeting for that date and hour owing to the Half Yearly Meeting being held next day.

Present: His Excellency Sir W. H. Manning, K.C.M.G., presiding; Sir Jno. Pringle, K.C.M.G.; Hons. D. Campbell, R. P. Simmonds, and S. S. Stedman; Messrs. R. Craig, A. W. Douet, H. Q. Levy, A. C. L. Martin, E. W. Muirhead, Rev. W. T. Graham, and the Secretary, Jno. Barclay.

Apologies for Absence.—Apologies for absence were received from Messrs. G. P. Dewar, Jas. Dougall, Adam Roxburgh and Walter Woolliscroft. A letter was read from Mr. Dewar as follows:—

Dear Sir—Again I find I will be unable to attend the meeting of the Agricultural Board of Management next week, and as I do not see that I can be more regular in the future I shall be much obliged if you will tender my resignation to the Chairman and members.

(Sgd.) G. P. DEWAR,
13th January, 1917.

Questions.—Mr. Stedman said that he had one question to ask which he would like to have answered at the meeting, and it was: Had any report been made to the Board with regard to the Panama Disease of Bananas?

The Secretary replied that he had received such a report recently and it would be submitted to the Board at a later stage of the agenda.

As arising out of the previous minutes the following matters were considered:—

(i.) *British Empire Producers' Organization.*—The Secretary submitted letter from the Colonial Secretary, No. 491-266 of date the 11th January 1917, acknowledging receipt of the resolution passed at last meeting, and informing the Society that a copy thereof has been forwarded to the Secretary West India Committee for communication to the British Empire Producers' Organization.

A letter was also read from the Secretary of the West India Committee covering the fourth Monthly Report of the British Empire Producers' Organization, and saying that the Organization is getting its machinery into working order.

(ii.) *Orange Oil.*—The following letter on the subject of orange oi adulteration from the Colonial Secretary, was read:—

No. 254-19578/16. 6th January, 1917.

I am directed by the Governor to acknowledge the receipt of your letter, C.S.O., No. 104, of the 23rd ultimo, complaining of the lack of attention to cases of adulteration of Orange Oil, which have been brought to notice.

2. I am to say in reply that enquiry is being made in the matter and that a further communication as a result of that enquiry will follow.

(Sgd.) ROBT. JOHNSTONE,
Actg. Colonial Secretary.

(iii.) *Sugar Industry Committee.*—A letter was read from the Colonial Secretary, No. 167-255, dated 5th January, 1917, covering a copy of the decisions of the Privy Council on the proposals put forward by the Permanent Committee in their last report, which were as follows:—

"The Council considered the proposals put forward by the Committee for the development of the Sugar Industry of the Island and the re-organization of the Savings Bank.

The Council came to the following conclusions:—

1. That the Savings should be re-organised on modern lines.
2. That the system of the lodgement and withdrawal of deposits should be simplified on the lines obtaining in other banks.
3. That the rate of interest should be increased to 3%.
4. That Branches should be opened at Post Offices in places where such a course was possible.
5. That the Savings Bank Law should be amended to enable deposits to be utilized for loans to Agricultural Loan Societies' Banks (which should be affiliated with the Parent Bank) and for the purpose of making loans of larger amounts than £200, for the development of Agricultural industries, such loans to be on Mortgagees' Security.
6. That the proportion of the deposits of the Bank which are to be available for advances should be definitely fixed in the Law.
7. That in the case of large proprietors or syndicates the Government should guarantee the interest on the required capital (but not the capital itself) on the basis of Law 24 of 1903.
8. That no Sugar Department should be established.

(iv.) *Economic Conference of the Allies.*—The Secretary said he had as directed communicated with the Merchants' Exchange on the subject of their collaborating with the Committee appointed by the Society at the last meeting to consider the despatch of the Secretary of State *re* the Economic Conference of the Allies, and he had received a reply that Messrs. S. Soutar, R. S. Gamble, Adolph Levy, Lionel DeMercado and Walter Farquharson had been appointed.

A meeting of the Joint Committee on this subject was held at 11.40 the day previous.

He had expected to have been able to make some definite report on this, but the meeting was lengthy and no definite conclusions were arrived at. The meeting was adjourned till Tuesday, the 30th inst.

(v.) *Protection from Disease Plants Law.*—The Secretary submitted papers returned from circulation among the Board on the subject of the fumigation of imported plants with cyanide.

There was some discussion on the subject, and it was decided to submit the comments of the members on the papers circulated to the Director of Agriculture for his views and to ask the Government

A letter was also read from the Colonial Secretary as follows:—

No. 15778-10192/16. 19th December, 1916.

With reference to the letter from this Office, Nos. 12144/10192, dated the 28th September, last, forwarding a copy of a draft order in regard to the importation of plants on which the Governor asked for the advice of the Board of Management, I am directed by His Excellency to say that the two points on which His Excellency desired particularly the advice of the Board are as follows, namely:—

(1) The lessening of the restriction in regard to Banana Disease by giving power to the Department of Agriculture to allow importation instead of the present complete prohibition, and (2) the requirement of every importation being *consigned* to the Department of Agriculture and coming therefore to Kingston only.

(Sgd.) ROBT. JOHNSTONE,
Actg. Colonial Secretary.

The Board did not consider that lessening of the prohibition was desirable, and the Secretary was instructed to reply to the Colonial Secretary to that effect.

(vi.) *Estimates.*—The following letter from the Colonial Secretary was read:—

No. 386-157. 9th January, 1917.

I am directed by the Governor to acknowledge the receipt of your letter, C.S.O., No. 112, dated the 2nd instant, and to inform you in reply that Four Thousand Five Hundred Pounds will be placed on the Estimates for 1917-18 for the grant from the Government to the Jamaica Agricultural Society.

(Sgd.) G. M. WORTLEY,
Actg. Asst. Colonial Secretary.

Half Yearly Meeting—Agenda.—The actual agenda for the Half Yearly General Meeting to take place the day following was presented.

The question of the removal of the woodpecker from the list of birds protected by law came up for discussion. Opinion was divided as to whether the woodpecker was one of those birds which did more harm than good to cultivation. It was agreed careful ornithological investigation should be carried out before definite be action taken.

Mr. Levy suggested that a time limit of five minutes should be put on speeches at the general meeting. The President said that what he intended to do was at the beginning of the meeting to appeal to speakers to limit their arguments as much as possible.

Panama Disease of Bananas.—The Secretary submitted letter from the Colonial Secretary, No. 263 19519/16, dated 6th January, 1917, in reply to letter from him covering a report from the Inspector of Plant Diseases on Panama Disease.

Mr. Stedman asked whether the Secretary could say if it was correct that at any time last year a report of the detection of thirteen cases of Panama Disease within three days ever reached his office.

The Secretary replied in the negative.

Mr. Stedman stated that in Portland, banana plants affected with Panama Disease had been thrown into the river, with the result that the disease was spreading to a serious extent. He knew as a fact that in February last year thirteen cases were detected, and if a report of the matter had been presented to the Board of Management, they would have been able to deal with it promptly. He knew that the disease was spreading in a way not disclosed by the reports of the Department, which from time to time gave the impression that the disease was being checked, and that only a few cases were occurring. The places mentioned in the report then before the Board were miles and miles away from the site of the original outbreak. As a matter of fact, in the Buff Bay Valley ninety per cent. of the bananas had been wiped out through the Panama Disease. The small hold

were great sufferers; the Government had actually confiscated their lands for years and left them destitute. Although the Government had said that these people had been compensated, he knew that they had not been compensated. That was not the fault of the people, but the fault of the Department of Agriculture, who had played with the disease and were still playing with it. The manner in which the disease was being dealt with was a disgrace. The Director of Agriculture had never been in the district, but had left the entire matter into the hands of the Inspector of Plant Diseases. This was not fair to the Inspector; it was not fair to the island.

Mr. Simmonds said that after what Mr. Stedman had stated, he thought it was the Government's business to enquire into the matter.

The President: Are you speaking of one particular area?

Mr. Stedman: I am speaking of several areas. I know of four valleys in Portland where the disease has taken hold.

President: Does the Department know of it, and have they treated it?

Mr. Stedman: Yes; but not effective treatment.

Mr. Levy stated that he did not agree with Mr. Stedman in arguing that because the disease was spreading, that was conclusive proof that the Department had been lax in treating it. The disease was most difficult to control, and that was why he had insisted that it should have been vigourously treated in its incipiency.

In reply, Mr. Stedman said that everybody knew that the disease was spread by soil infection. The people had been allowed to plant canes on the treated areas and permitted to go in and out as they liked, with the result that there was no control over the infected areas. The cane tops were even supplied by the Department of Agriculture. The Director himself had said that it was impossible for bananas to grow on the treated area without the disease reappearing, and yet he had allowed the people to plant canes on the places.

Rev. W. T. Graham stated that the position, as described by Mr. Stedman, appeared to be a very serious one, and should be taken in hand without delay.

Sir John Pringle thought that the Department's report did not show how far from the original centre the disease was spreading. The reports should be such as to enable the Board to follow the spread of the disease from valley to valley and place to place.

The President: Was the Director of Agriculture requested to notify the Board in this matter month by month?

Mr. Stedman: Yes, sir, through you.

After further discussion, on Mr. Campbell's suggestion, it was agreed that His Excellency be asked to appoint a committee to go fully into the subject, and that the committee should not be made up of members of the Board.

The Secretary was instructed to write to the Colonial Secretary pointing out that the undertaking to supply a Progress Report on the control of Panama Disease was not being carried out.

Banana Borer.—The following letters were submitted from the Colonial Secretary:—

(1.) 33-19515/16, dated 2nd January, 1917, acknowledging receipt of letter from this office saying that instructions have been issued to the Director of Agriculture to enforce the terms of the Order in St. Catherine on the abandoned planta

(ii.) No. 16173-18288, 29th December, 1916, as follows:—

With reference to previous correspondence on the subject I am directed by the Governor to transmit for the information of the Jamaica Agricultural Society, the accompanying copies of further Memoranda by Mr. F. P. Jepson, Government Entomologist, Fiji, on the subject of the Black Weevil Borer of Bananas and the introduction into Jamaica of live Histerid Beetles, which have been received from the Governor of that Colony.

2. I am to say that the Governor of Fiji is being informed that His Excellency would be glad if Mr. Jepson would be so good as to proceed on the lines indicated in this Memorandum, No. 508/16, headed "The Introduction of *Plaesius javanus* into Jamaica.

(Sgd.) ROBT. JOHNSTONE,
Actg. Colonial Secretary.

(iii.) No. 34-19444/16, dated 2nd January, 1917, covering Report by the Government Entomologist on the Biological observations of the Beetle.

(iv.) No. 764-781, dated 17th January, 1917, covering Progress Report from 19th December, 1916 to 15th January, 1917.

The Secretary was directed to circulate these papers to the Board.

The following further letters from the Colonial Secretary were received:—

(i) *Horses for Canal Zone.*—

No. 15981-19189. 22nd December, 1916.

In continuation of the letter from this Office No. 13979/16635, dated the 10th ultimo, I am directed by the Governor to transmit for the information of your Society the accompanying copy of a letter from the Commander of the United States Military Forces in the Canal Zone, which has been received through His Majesty's Minister at Panama, relative to the possibility of horses and mules being bought in Jamaica for the Forces under his command.

(Sgd.) ROBT. JOHNSTONE,
Actg. Colonial Secretary.

The Secretary was instructed to publish the information as widely as possible so that breeders might become aware of the requirements and breed with a view to filling them.

(ii) *Pimento Scale*—

No. 431-116/17, dated 10th January, 1917, saying that His Excellency had approved of the Microbiologist and Mr. Sutherland, Inspector of Plant Diseases, being sent to Hanover and a thorough survey being carried out in connection with the Pimento Scale Disease in that parish.

(iii) *Contagious Diseases Animals (Inland) Law.*—

No. 359-17137. 8th January, 1917.

With reference to your letter No. C.S.O., No. 90, dated the 8th November last, I am directed by the Governor to transmit for the information and remarks of your Society the accompanying copy of a Bill entitled "A Law further to amend the Contagious Diseases Animals (Inland) Law, 1909 (Law 1 of 1909).

(Sgd.) ROBT. JOHNSTONE,
Actg. Colonial Secretary.

The Secretary read the proposed amendments to the Law. An omission was pointed out that the addition of the words, "or burying," in reference to the disposal of carcases, suggested in the Report of the Live Stock Committee, had not been dealt with in the revision. He was instructed to draw the attention of the Government to the omission.

(iv) *Prohibition on Foot and Mouth Disease.*—

No. 16125-19184/16, dated 28th December, 1916, stating that a reply has now been received from His Majesty's Ambassador at Washington and that the matter will be considered at the next meeting of the Privy Council.

The President said that he did not propose to recommend the removal of the prohibition yet.

(v) *Banana Meal.*—

No. 15810-S.S.Misc. 15.11.16, dated 20th December, 1916, forwarding despatch from the Secretary of State with recommendations for the use of plantain meal as at

The Secretary said the enclosures contained a long letter from Dr. Nicholas who visited the Island some 18 or 20 years ago. Since then the efforts in the manufacture of banana meal has assumed a more business-like aspect and there have been at least two factories operating here. The product had been usually shipped in the form of chips and ground to meal on the other side.

He had replied fully, and he would circulate the letter and copy of his reply, to the Board. This was approved.

Logwood Analyses.—The Secretary said a comparative report on Jamaica logwood and logwood from other countries which had been made here some twenty years ago had been circulated in the dye-wood trade in the United States, he was informed, to the detriment of our trade. The report was probably correct at that time as it called attention to the advisability of importing fresh seed from British Honduras. Large quantities of seed from that place had accordingly been imported in 1897 and distributed throughout the Island. The trees had grown up, borne seed and had no doubt influenced the character of the wood here to a considerable extent. He had written the Director of Agriculture asking if any recent analysis of logwood had been made, and the reply was that the Chemists Department had never made analyses of logwood and so he was unable to furnish data. He suggested that up-to-date analyses should be made of logwood from different parts of the Island.

After discussion this was approved, and the Secretary was instructed to write the Government suggesting that the Chemist's Department should make various analyses of logwood taking specimens from the sea-coast as well as inland, also lowland and upland woods.

Industrial Alcohol.—The Secretary said the question of manufacturing industrial alcohol here, had been brought to his notice, and he mentioned the matter to the Board for the purpose of having it discussed. There was a possibility that as rum was not an essential, there might not be freight space for it under possible new shipping arrangements. As a matter of fact, the local price had dropped, and he was informed that the bonded stores were already full up. He was also informed that there was a like conjestion in the United Kingdom. The suggestion was that if our rum could not be shipped, it might be treated and converted into industrial or denatured alcohol for which there was a large demand at present in making munitions and in the dye-woods trade, etc., the price being quoted at 4/6 a gallon. To make denatured alcohol, he was informed, required patent stills, and all our stills were pot stills. It would not be difficult, however, to erect large central patent stills and denature the rum if necessary.

The matter was thought worthy of investigation, and was referred to a small Committee for report. It was agreed that the Director of Agriculture and Mr. Jas. Dougall should be asked to form the Committee.

Diseased Coconut Trees.—A letter from the Hon. H. Cork was read as follows:—

15th January, 1917.

"I observed in driving from Parkmount to Port Antonio several diseased coconut trees in the peasants' fields between the 3 mile and the 3½ mile stones from Port Antonio to Nonsuch. No steps seem to have been taken to have these trees fumigated or destroyed, and they are immediately to the windward of a large coconut area, and I think they ought to be destroyed."

The Secretary was directed to notify the Director of Agriculture of this.

West India Committee Circular.—The Secretary read letter from the Secretary West India Committee as follows:—

24th November, 1916.

We have posted to you Circular 473 and a copy of the 3rd Monthly Report of the B.E.P.O., and I now take the opportunity of wishing you as happy a Christmas as can be possible in these days and a prosperous New Year.

You will note that the B.E.P.O. is getting into its stride and actively at work.

The immense increase in the cost of labour and paper has compelled us to look into the question of ways and means with regard to the publication of the Circular. The cost of the "Times" has been raised 50%; but we do not propose to reduce the size of the Circular nor even to increase the cost, relying for our reward on obtaining an increased circulation. We hope that you will help us to secure this, and I shall be glad to send specimen copies to any firms or individuals whose names you may send to us.

You will have noted that for the convenience of our members we have opened an account at the Colonial Bank, to any branches of which subscriptions can be sent in future.

The movement in connection with Trade after the War is gathering momentum, and the Government is to be pressed to state when it proposed to give effect to the recommendations of the Paris Conference.

You will note an article in the Journal of the Colonial Institute for November on the question of Canada and the West Indies, and I shall be anxious to receive your views, as asked for in my last.

(Sgd.) ALGERNON E. ASPINALL.

War Gifts.—The Secretary submitted detailed report on the 38th and 39th shipments, which would be published in the JOURNAL as usual.

He also submitted letters of acknowledgements from warships of fruit sent to them.

An extract from a letter from Mr. Aspinall was read as follows:—

"I am sorry to have to again call your attention to the fact that some of the hospitals are receiving far too much fruit, at the expense of others. Thus the Star and Garter are getting more than they can do with, while others are crying out for fruit. I should be greatly obliged if you would kindly mention this to the kind donors."

A letter from the C.S.O. was submitted on the question of the records of War Gifts sent through the Society, which the Secretary said would receive attention.

Authorized Persons.—Mr. J. Shore submitted the name of Charles Jones, Palmyra, Little River P.O., for appointment as an Authorized Person.

The Secretary was instructed to forward the name to the Inspector General. He (the Secretary) said he had suggested to Mr. Shore that he might get the man in touch with the nearest Branch Society for the purpose of control.

Affiliations.—Applications for affiliation were presented from the following Societies:—

Somerton	(St. James).
Free Hill	(St. Mary).
Gordon Town	(St. Andrew).
Clapham	(St. Ann).
Nonsuch	(Portland).
Jackson Town	(Trelawny).

Information being to hand as to the desirability for such Bran
affiliation was granted to all except Free Hill and Clapham;

Instructors' Reports and Itineraries.—Reports and Itineraries of the Instructors for the month of December were submitted and referred to the Instructors' Committee.

New Members.—The following new members were elected:—

J. Albert Lundstrom, Catadupa.

C. A. Carwood, United Fruit Co., Costa Rica.

L. H. Van Allen, St. Thomas, D.W.I.

W. E. Maxon, P.O. Box 35, Ancon, Canal Zone.

Geo. M. Poe, Superintendent Live Stock, c/o Railroad Co., Spanish Honduras.

The meeting adjourned until Thursday, 15th February, 1917, at 11.40 a.m.

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HALF YEARLY GENERAL MEETING.

The Half Yearly General Meeting of this Society, held at the Collegiate Hall on Thursday, 18th January, 1917, at 11.40 a.m., was most successful. There were no fewer than 80 delegates of Branch Societies present, out of a total of 159 Branches, which shows that the interest is being kept up. There was a great deal of business to get through and the meeting lasted four hours; still, the business was got through more expeditiously than at the July meeting last year. Speeches, however, are still too long. Some of the subjects discussed were as follows:—

1. *Removal of Woodpeckers from the List of Protected Birds.*—A great deal of evidence has been given, which has been put forward, to prove that woodpeckers destroy cocoa pods to a large extent. A good many cocoa growers, however, do not believe this. The Meeting decided therefore to ask the Governor to arrange for an ornithological investigation to settle matter. This can only be done by the very closest observation, especially during the breeding season when the parent birds are busy in getting all the food they can, in the quickest way possible, to feed their young ones. The habits of these birds have to be closely observed; specimens have to be shot, and the contents of their crops investigated, and all this not in one district alone, but in several. It has to be proved first whether the woodpecker attacks cocoa pods at all, and this should be easily proved one way or the other. It has also to be proved—and this is most important—to what extent the woodpecker is an insect eater. If he has any debit against him in doing any harm agriculturally, it is certain that he will have quite a good credit in his favour also: the balance will have to be taken. There are many instances where birds and animals change their diet according to cirsumstances. The greatest care, however, has to be exercised that bird life is interfered with to as little extent as possible. Multitudes of insect pests that are now causing such loss to our crops, may be due to our interference with bird life: it is also quite possible that this may be due to a good many birds changing their diet. We hope the Government Entomologist will be authorized to make the investigation as soon as possible, and settle this question about the woodpecker.

2. *Free Postage from Branch Societies to Instructors.*—At the July Meeting the Governor granted free postage from the Secretaries of Branch Societies to the Secretary of the Parent Society in Kingston, and the further concession was asked, that there should be free postage

to the Agricultural Instructors. This is quite reasonable, because tl Instructors have to write many Branch Secretaries and small settlers to arrange for meetings, visits to holdings, and demonstrations, and if an Instructor does not receive replies promptly, he is put in difficulty in arranging his itinerary, i.e., his engagements for each working day of the following month, and as each Instructor is expected to send in a well arranged itinerary by the end of each month, which is inspected by the General Secretary, it is necessary that his arrangements should be made promptly: but in these days when every letter costs a 1½d., it is too much to ask small settlers not only to write a reply and send it some miles perhaps to a post office, but also spend a 1½d. over what after all is public business. Permission was asked for the Instructors to enclose a franked addressed envelope in such letters.

3. *Sale of Bananas.*—This is a most important subject. We are in a different position this year, from last year, when we had an abundance of bananas ready and could have begun our normal supply in July when ships were available. This year we shall not have anything like the average supply of bananas; there will be a great reduction on what was available the year before. Planters in St. Catherine have largely replanted to meet the spring of 1918, but a great many large and small planters had not the means to put their fields in good order promptly after the hurricane of August, 1916, and to keep them in good order. In some districts small settlers have given up their bananas altogether, and have largely planted provisions, sugar cane and other crops. It is our duty to try and find out what quantity of bananas will be ready for export say between July and next spring, at which time large crops should be available again, although we fear not nearly equal to the production of previous years. There will probably be a reduction in our output of bananas for a long time now. It is quite possible that the United States market might be able to take all the bananas we are able to produce for the six months from July. The Governor has therefore asked for careful statistics to be provided of the fruit that might be available for shipment for the six months following on July.

4. *Licenses for Firearms.*—This subject has been discussed several times, but was again brought forward. The request was made that the license on guns should be abolished, and revenue made up by an increased tax on ammunition. The tax on firearms, however, is not a revenue measure, but more in the nature of a license, so that all the firearms in the country may be easily traced. The Governor is entirely against any change that will make firearms more widely distributed than at present.

5. *Registration of Titles.*—This is a subject that has been very much discussed of late owing to the fact that through the applications for loans from Loan Banks, it has been brought out how few small settlers possess proper titles for their land, and it is held that it is the heavy cost which has to be incurred in the preparation of titles which prevents owners of land having proper certificates of ownership. The cost of getting the necessary papers for small proprietors is often out of all proportion to the value of the property itself.

6. *Double Dialled Scales.* This matter was represented to the Government before, and we understand that legislation was proposed,

We think, however, that even without legislation the use of double dialled scales could be introduced, by everyone insisting that the shopkeeper with whom he trades should possess such scales. If one shopkeeper in a village started using double dialled scales, the other traders would soon be forced into doing the same.

7. *Authorized Persons.*—All the resolutions sent in, in connection with this subject, have been referred to the special committee which has already held one meeting and dealt with the subject. A good many Branch Societies, however, have not yet sent in their recommendations. We hope that they will now do so, as this is their opportunity to have all difficulties that occur in connection with their Authorized Persons dealt with.

8. *More Pages for Branch Notes.*—This matter will be submitted to the Board of Management of this Society. It has always to be borne in mind, however, that the price of paper has been very largely increased, and that there are new Branches being formed which means that more JOURNALS have to be sent out, and yet the cost of production may not be increased; therefore it has been necessary to cut down the number of pages. Branch members like to see Branch Notes, but other readers of the JOURNAL want reading matter of general interest which will be useful to them. Some Branch Notes are sent in good form for publication, but most of them have to be gone over and edited.

:o:

THE HORN FLY.

This pest has been known in St. Elizabeth for a number of years and in the parts of Manchester adjacent to that parish. The severity of the attacks seemed to fluctuate, some years the flies being a source of great annoyance to the stock, in other years hardly noticed. Reports of this pest being known did not come from other parts of the Island. We had notes on the subject in the JOURNAL for February 1910.

Recently this fly began to be noticed in St. Ann as a pest, and lately became a great annoyance to cattle, almost a plague. Representations were made to the Government and the Government Entomologist proceeded to St. Ann and made investigations. The Entomologist gave a lecture on the subject to the Agricultural Instructors at the Office of the Society on Tuesday, the 16th February. As the information is important, we publish a summary prepared by the Entomologist.

POINTERS ON THE HORN FLY.

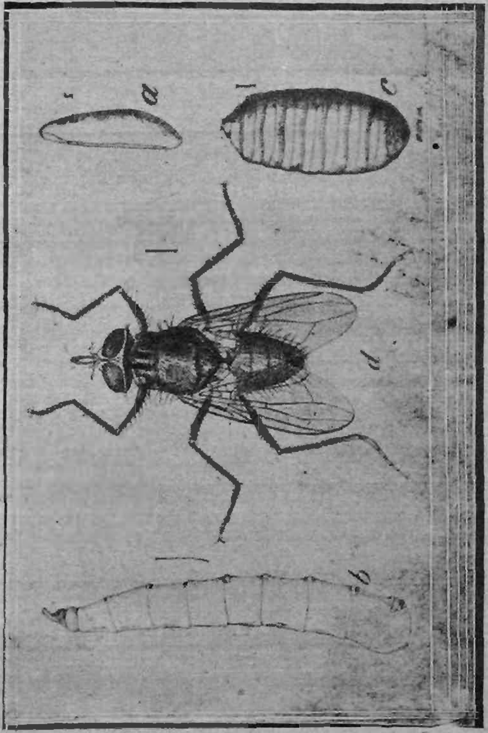
The Hornfly is a European insect which has been introduced into the West Indies upon stock and under tropical conditions which permit of all-the-year-round breeding and with no winter to greatly check numbers, it assumes a roll of greater economic importance, and by its steady drain upon cattle taxes the cattle industry of the tropics to the extent of several million pounds a year.

The Hornfly is a small grayish fly, smaller than the average housefly, which settles upon cattle, rarely horse and other stock, in dense clouds, about the shoulders and sides and universally comes to rest upon the animal *HEAD DIRECTED DOWNWARD.*

The Hornfly has in its life 4 stages:

(a) The EGG—laid on cow manure.

(b) The MAGGOT—a small whitish worm pointed at head and square behind: passes its life in and sustained by cow manure.



(c) The PUPA—a tiny brown barrel: the resting stage for transformation and change to the fly: passed in soil beneath cow manure.

(d) The ADULT—a bloodsucker, irritater, PEST!!!

Moist conditions which permit of the cow manur... ... moisture for a time favour the Hornfly multiplying. Too *WET* or too *DRY* will not do and the flies decrease in numbers to the vanishing point.

Hornfly will be less troublesome on properties with abundance of pimento grass common or short pasturage. Para grass and guinea grass shade and protect manure from drying out rapidly and afford fly conditions.

The Hornfly reduces the condition of cattle by (a) *bloodsucking*, (b) *worriment*, so that the animals cannot feed in peace.

Milk yield falls off considerably—25 to 50%! Dairy returns suffer! Sucking stock feel the effect!

The Hornfly may by its irritation and weakening effect excite latent Texas Fever in the blood.

The Hornfly may transmit stock diseases and flesh flies may blow the wound inflicted by the animals upon themselves in their endeavour to rid themselves of flies. Flies may also bring the germs of putrefaction and disease to such wounds.

Sprays on the cows such as kerosene emulsion, etc., will repel :he flies for a day or two only!

The adult flies may be netted by means of hand nets from stock ·un between double fencing!

Dung beetles and such manure frequenting insects assist by ›urying manure, or covering it up, or tunnelling it out so that it rapidly lries!

Manure can be spread in the fields in the wet season by fork ·r bush harrow to permit rapid drying. Hogs will also assist! Fowls nd birds will devour the exposed maggots!

Splash boarding of the dipping vat can be adapted to mechanically rown the flies and is a measure to be approved as stock without ticks an more readily withstand fly attack. The tick is sedentary and asily treated: the fly is winged and fancy free.

———:o:———

COW DUNG.

We see paddocks and pastures so covered with patches of cow ıng, that one wonders sometimes whether there is not more dung ıan grass. As manure is always needed it would pay to lift the ·w dung, put it in one heap under cover, and let the fowls scrape ıd the pigs root there. These would keep down all pests which herwise would breed in manure. In time when the manure was umbled it could be applied as a top dressing (mulch) to a field of rn, or dug or ploughed into the soil for any crop. Great quantities valuable manure are wasted in Jamaica, and manure is much needed. e find this manure is especially good to start "Irish" potatoes if ımbled in the drills. It is not a rich manure, so would not be fficient alone as manure for "Irish" potatoes, but it is good to apply

HORSE BREEDING.

The United States Government require horses and mules for the Canal Zone and they have made experiment in taking several consignments of horses and mules they could get in Jamaica nearest the type they wanted. The exact type wanted has not been got here and it does not exist. It is stated by the General in charge of the Canal Zone that if we had such horses and mules to suit them it is very probable—although no settled guarantee has been entered into over the matter, the United States Government would buy here in preference to most other places. That Government can get what it requires in the United States, but the horses and mules even from the Southern States require a good deal of acclimatization in the tropics before they take to conditions and usually give a good deal of trouble on the whole, but the Jamaica horses and mules it is stated take to the conditions but require proper feeding and handling in order to turn out suitable.

This Society made enquiries to ascertain whether the type of animals suggested by Mr. Legarde—the agent here, who purchased the consignments—was correct, and whether any guarantee would be given that the horses and mules bred would be purchased. No such guarantee could be given, only we are told that the horses and mules are wanted and that those from Jamaica would probably be preferred if they were a stouter type.

We are of the opinion, that if this type was bred here, there would be ready sale here as well as abroad, as the type wanted is just as easily raised as what we are raising.

Suggestions have been made that mares of the right type should be imported, and we could use our stallions to these. We certainly do not have many of the right type of mares at present. We require horses for utility purposes.

For our demand, in the United States there are horses, which are the exact type of horse wanted—the American Quarter horse. These mares could be bought in Texas for very moderate prices indeed, and it would be a good thing if several breeders could import together a good batch at one time and no doubt the Government would make special concessions for the importation of these animals. as there is a duty on all horses imported that are not pure bred, that is, that are not a standard breed, and are not accompanied with a certificate of pedigree.

We hope that the subject will be well and reasonably discussed and invite opinions or pertinent suggestions from our readers.

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COCONUT BUTTER.

Owing to the high price of butter, we have had more than the usual enquiries as to how to make coconut butter. Every one knows how to make coconut oil, but the making of coconut butter is quite a different process, and requires some skill. Coconut butter is being very largely used in the place of dairy butter in the United Kingdom and France, and before the War it was largely used in Germany. It can be used wherever dairy butter is used. Here is the process:—Grater or grind in a mill the meat of the nut as fine as it can be ground, and for the meat of each average nut add a pint of boiling water. Put this in a press so that the milk can be squeezed out separate from

the pulp. This milk can be used in place of cow's milk for any purpose, and is especially good with stewed fruit. To make butter, this milk can be separated in a separator or let stand in a pan to let the cream rise, which it should do in about the same time as the cream in cow's milk. This can be set to ripen, and be churned in the usual way. The whole process is in every respect the same as in making dairy butter. Wash out the butter-milk, add salt to taste. As a rule, this butter is white and annatto colouring can be added. According to the size of the nuts, it should take from 6 to 10 nuts to make 1lb. of butter. The churning should be done in a cool temperature, say between 60 to 70 degrees.

:o:

RE BLACK FLY OF CITRUS.

I have read the article in the December JOURNAL written by the Entomologist, stating that Florida had quarantined against the importation of trees, plants, and parts of plants from the Bahamas, India and Jamaica.

On this subject I would like to state that the so-called Black Fly of Citrus in Jamaica is really a small grey fly. My citrus grove got infested with this fly in the latter part of 1913, and during the years 1914 and 1915 all the trees were actually covered with the sooty mould consequent upon the secretions from the larvae of this pest, except one tree that was growing in the middle of one of the fields. On careful examination it was found to have a small nest of ants on it that were observed crawling all over the leaves, but not a fly or their larvae was on the tree. This led to the examination of some citrus trees scattered over the pastures (not in the grove) and those trees that had a nest of ants on them were quite clean, and those that had not were covered with Sooty Mould. This to me seemed conclusive, and I set to and put an ants nest on every tree in the grove. This was done in the latter part of 1915 and in six months the trees began to look clean and a flush of bright green leaves was showing free of fly, and later many of the trees blossomed, a thing they had not done for the previous two years.

I am now quite confident that this small ant can prevent fly infestation of citrus trees in Jamaica.

(Sgd.) D. C.

Linstead,
15, 1/17.

:o:

PRODUCTON PER ACRE.

At the Course for Agricultural Instructors held at Hope in January 1916, when some of the Instructors gave lectures on the particular agricultural subject in which they were most experienced, Mr. E. J. Smith, formerly Instructor for S. St. Elizabeth and S. Manchester—often termed "the drought stricken districts" owing to the severe dry weather from which they suffered between 1907 and 1914—gave an address on "The Cultivation of Small Crops in Dry Districts." He then said that as much as £90 could be made and had been made, out of a single acre, and £60 an acre over several acres, by small settlers, given only moderate land, moderate seasons, and moderate prices. To

not be done of course over a score of acres. It wanted the application of the man's own labour and that of a family so that all labour would not have to be employed. The statement was queried, but we were in a position to confirm it.

In 1912 this Society gave prizes for the best cultivated square chain of different crops in these dry districts. One chain of tobacco, with "red peas" as a catch crop, easily gave £9 nett; the owner with his own labour could easily have done half an acre, and with some help, an acre, as it was pipe tobacco, not cigar tobacco, and did not need delicate treatment. We know of another acre in yams, cassava, peas, and tobacco, which gave a nett return to the thoughtful owner (who employed labour) of over £100.

The other day we saw cultivations on rented land—fortunately not very much damaged by the storm of August—consisting of ginger, yams, cocoes and cassava, which will give over £120 gross, to be moderate, in this year. The land is good, seasons—although rains were too heavy and continuous—fair and prices are of course very good for yams and good for the other crops too. The bearing is all very good. The yams stand 6ft. square, with a cocoe in every square; "red peas" were grown on the yam banks and right through. When the yams were a little over half-grown cassava sticks were planted at the foot of the hills. In some fields cane tops are planted at the foot of the yam hills where there is not to be a second planting of yams, and a field of cassava or cane is thus established very quickly and economically.

At the present price of yams, the yield from hills in the above cultivation as tested, will not be less than 2/- each at a moderate estimate (some hills give value for over 4/-), so that with an acre of yams planted 6 x 6, equal 1,200 to the acre at 2/-, there is a gross yield of £120 in 9 or 10 months. In addition a second and third crop will be grown in the same hills probably, at little expense. There is also the yield from the peas, cocoes and the cassava which probably paid for all the weeding. An acre of such crops does not require a man's labour 8 hours of the day, 5 days in the week, all the year round.

We once asked our Branch Societies to discuss this question—Can a holding of 5 acres maintain a family of 5 or 6?, and the result of the discussion was that it could do so, *if* (there are always some ifs in everything) (1) the land was good, i.e., not half rock-stone; (2) seasons were fair, (3) and the family worked. Ten acres of such land, however, gives a good opportunity. How many men, however, growing crops for themselves either on their own land, or rented land, give 5 days a week of 8 or 9 hours per day of steady application to their own work? What is the average week's work of the ordinary calculation ?

In all industrial and manufacturing concerns there are fixed hours of labour which may vary—6 a.m. till 6 p.m. in some countries, 6 a.m. to 5 p.m. in others, with two hours off for breakfast and dinner. Here on estates the hours are 7 to 5 with one hour for breakfast. The small settler and his family who work for themselves, however, seldom think of working steadily so many hours a day, and the result is that out of say 300 working days of the year there are at least one-third lost in doing nothing in particular. Every hour spent in the field, cultivating, planting, weeding, trenching, pruning, tidying, is of as much value surely to a man's own pocket as cash earned doing some other body's work.

What can be done to stem the tide of emigration? The only answer is that the people must be helped to get land.

There are large tracts of crown lands, but these are not opened up with good roads. One way which seems practicable is for the Government to purchase properties placed on the market and sell these in lots to those in need. These lots should not be less than 5 or more than 50 acres. The price should be just such that the cost of purchase and other expenses be recouped.

For instance, in the *Gleaner*, I see the properties of Elim and Cabbage Valley advertised for sale. Suppose Cabbage Valley were acquired and sold out in lots. If small settlers took an average of 15 acres each, the 1,761 acres would be enough for 117 persons. Again, there are the properties of Marlborough and Moreland in Manchester, which it is expected will soon be sold. These have always been rented to the people nearby and from which have been grown vast quantities of yams and sweet potatoes. If these properties are not acquired by the Government and resold to the peasantry, private owners may buy them and refuse to rent. What a dilemma the people will then be in as they have depended for years on these properties for lands; and what a loss in foodstuff will the island sustain!

While preaching to the people to plant food, it is necessary to tackle the land question. The elected members should deal with it at once. Something must be done to keep our young men from emigrating.

H. W. LYNCH.

:o:

HORSE BREEDING.

(Being Paper read by J. A. Ogilvie at the Meeting of the Porus Agricultural Society, February 5th, 1917.)

Jamaicans have always been lovers of horses, and the amount of practical and scientific knowledge concerning them which many gentlemen of the landowning classes display, leads one to believe that such complete information can only have been acquired by long experience, coupled with a free "burning of the mid-night oil.' Manchester is particularly well blessed in this respect, and such names as Jack Palache, Henry Jacobs, Easton Muirhead, Alex. Martin, Aubrey Lewis, the Jackson Brothers, T. P. Leyden, Captain Bonitto, will at once suggest themselves to your minds, as you must have often noticed all these gentlemen either judging or competing at the more important shows of the Island.

I lay claim to no great knowledge of horse-breeding, but as my poorer neighbours are continually applying to me for information on the subject, I venture to offer, for their especial benefit, at this the beginning of the season, a few simple facts and general observations resulting from my own experiences.

(1) Stallions and Jacks belonging to small settlers often have a hard time of it, being ridden about every day to pick up custom, and being sexually overworked, and too often underfed. It should always be remembered that no stud animal can serve every day with impunity. He must have time to secrete the seminal fluid, otherwise he soon loses his pro-creative powers and becomes useless. To get the best result, a stud animal should not be used more than three

times a week, say on Mondays, Wednesdays and Fridays, and he shou only cover three times or occasionally four times for the mornin work. This gives about 40 covers for the month, and if at all possib his sexual work should be reduced to about 20 covers a month duri the last eight weeks of the season. In feeding a stud animal, it is good plan to give him most of his grain at nights. He eats it mo leisurely then, and digests it more thoroughly, and it thus nourish him more completely.

Many good people have an idea that mares must be served the very early morning hours, otherwise the service is almost valuele Like many of these old fashioned notions, this idea is entirely erroneo and is not to be commended. If the best results are desired, it absolutely imperative that conception should take place at the mome when both parents are at their very best. This is the case in t early hours of the morning? At these hours, the horse's stoma is empty, his vitality (life force) is at its lowest, and his entire syst is relaxed after the night's rest. A wise trainer does not judge horse's form by the morning gallop alone. He knows too much make such a mistake. A stud horse or jack should not serve on empty stomach. He should have a fair meal (not a full meal) grain first, and should not be taken out to serve till about eight o'cloc by which hour the sun will be up and the animal's vitality will rising. Donkeys fed before serving often get lazy, but even o quart of corn given before taking him out will increase his vigo and freshen his form. Pits should always be built to face the risi sun.

(2) When a mare comes into heat she should be served regula every 4 or 5 days until she kicks. Then test her at 5 days, then at days and then at 9 days. Should she kick strongly at all these int vals, you may be fairly certain that she has held. Do not patron a stud-owner who keeps to the old fashioned idea of only putti out mares to service once in 9 days. In many mares sexual desi passes off very rapidly and if not followed up, every few days, th will kick savagely at 9 days without being actually pregnant. It frequently asserted that the mango increases sexual desire in hors and mares. This has no foundation in fact. The essential oil of t mango is chiefly composed of turpentine and its compounds, a turpentine never acts as a sexual excitant or irritant. The reas why mares are slow to kick off during the mango season (June a July) is because their condition is usually rich at this time owi to the abundance of succulent feeding, and also because the reprodu tive powers of the horses and jacks after 6 months sexual work are n as active as they are earlier in the year. Nobody accuses the co and pig of being sexually affected by the mango, although they partak of the fruit most freely.

(3) Barrenness in mares is a frequent source of loss and di appointment, and some people seem to have a peculiar luck for ownin unfruitful animals. I owned a mare once which was sent in rotatio to six of the finest thoroughbred stallions in Jamaica absolutely withou result. As a last resort I put her to my jack, and she bred in 8 jumps Every year thereafter I put her to both horse and jack, and she alway dropped a mule cub! Many penkeepers maintain that some mare will not breed for the jack. Such animals must be few and far betwee is in my experience any mare will hold for the jack with [illegible]

and perseverance. I readily admit, though, that it takes a long time in some cases, as I own a mare which refused for 10 years to hold for the jack, and finally dropped a mule cub after *one* service!

The causes of barrenness are many and various. The more complicated causes need not be mentioned here, as the small man will not be able to cope with them, and even the big man with his drugs, inseminators, dilators, etc., achieves but a tiny modicum of success in their treatment. Ill-health, too fat condition, too poor condition, and excessive sexual heat and discharge, are all causes commonly met with, and these can be remedied with a little trouble. A sick mare should recover her health and a thin or weakly one should be fed up and properly cared before the duties of maternity can be expected of her. A mare which is fat or plethoric should be worked hard for a few weeks and placed on poorer fare, and this will reduce her superfluous condition and cause impregnation to take place more readily. When the unfruitfulness is due to over-ardent desire, the discharge is excessive and this brings about an acid condition of the vagina. Fill a small bucket half-full with luke warm water, and dissolve therein two tablespoonfuls of either Potassium bi-carbonate or Sodium bi-carbonate. Syringe out the vagina thoroughly with this and put out the mare within 20 minutes as the effect quickly passes off. This may require to be done several times before the desired end is achieved, but success will follow with a little patience. Be positive that the mare is not in foal before attempting this simple operation. If in doubt, don't do it.

(4) Abortion among mares is much too frequent in this country, for although at times unavoidable, this accident can often be averted by a little ordinary caution and simple knowledge. It is the old story of prevention being better than cure, and I am inclined to believe that this mishap occurs more often in the small settler's yard than it does in the quiet pastures of the large landowners. Apart from disease, the causes of abortion are not at all complex, but an intimate knowledge of these causes is absolutely necessary to the successful breeder. The susceptibility to this mishap differs in the individual. Some mares will abort on the slightest pretext, others will stand almost anything. Mares between 4 and 10 years of age are most liable to miscarry. The susceptibility decreases after 10 years of age, but the danger is ever present. Over-work, blows, kicks, sudden frights, over-drinking, eating sour corn tops or stale cane chop, bad or mouldy food or grain, eating the leaves of the bitter cassava or the leaves of the sugar bean, foul smells arising from putrefying carcasses, carrion, garbage, etc., the raw scent of freshly drawn blood, being left for days without water, starvation, drenching with aloes, injudicious syringing of the vagina, forced service by the stallion, thrusting foreign bodies into the vagina, etc., all these will bring on mis-carriage.

A pregnant mare can be worked to within a few weeks of delivery, but it is unwise to use such animals at nights. Not long ago, a gentleman was driving a pregnant mare from a concert at Porus, and the sudden approach of a boy with a hurricane lantern so frightened the animal that she aborted next day. I know of two cases, where the sudden flight of a John Crow, and the sudden fall of a coconut limb caused mares to abort right away. Pigs and goats should not be butchered in yards where breeding mares are kept as the scent of the fresh blood is very harmful to them. The stench arising from dead

rats, kitchen refuse, etc., is also exceedingly noxious to the pregnai mare. A dead frog, mongoose, pig or calf in a pasture, with or withoı John Crows in attendance will cause a dozen or more mares to abor and the well-trained stock-man or farmer boy will at once drag awa such dangerous carrion even if he has to use a withe as a rope. On oı occasion my dogs drew a dead pig's head into a paddock where tl brood mares were feeding and they at once exhibited great uneasines Fortunately, attention was directed to the locality by the circlin crows, and the mares were quickly removed before any bad resul ensued. On another occasion I turned my brood mares into an ol ground where much spanish needle grew luxuriantly. Two of theı aborted in a week, and inspection proved that they had been feedin on some springing sticks of bitter cassava. I am wiser now. Whe corn tops are tied up tightly in a bundle heat is generated and fe mentation rapidly follows, so corn tops which are intended for tl breeding mare (or any other animal) should be loosened up at onc when brought in and spread out and fed within 12 hours at the mos Cane chop, too, gets stale and sour very quickly, and should onl be fed when fresh. On rare occasions, a pregnant mare will com into heat and call for the horse. In my experience, this usually happer about two months before delivery, and even if service is permitte no harm will result. If however, a pregnant mare is forced to tak the horse, abortion invariably follows. A mare should be well fe during pregnancy, but her feed should be reduced during the las two months as a fat or plethoric condition is always injurious to th unborn foal. Increase her allowance as soon as her little one is borı Threatened abortion is best treated by keeping the mare quietly t herself in some retired stable or pen. If discovered in time, try an find out the reason of her uneasiness, and if possible, remove th offending cause at once. Dead rats, pigs, etc., should never be pe mitted to remain anywhere near a brood mare, and unpleasant odour about the yard or stables should be dispersed by sprinkling aroun a solution of Permanganate of Potash. Never tie up a brood mar near to a pig sty. Frogs often die on the bank of ponds, and the mare coming up to drink are subjected to danger from the putrefying smel and they are apt to be seriously frightened by the flying crows; therefor pastures should be visited every day and such carrion carefully looke out for. Internally the best remedy for abortion is full doses of th fluid Extract of Viburnum Prunifolium (Black Haw) every four hour

(5) The length of time that a mare carries her young varies good bit. Some mares drop at exactly eleven months, others tak nearly twelve. My notebooks show 362 days as the longest tim in my experience and 310 days as the shortest. All attempts t determine the sex of the foal beforehand are mere guess work.

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LOGWOOD.

In the year 1897 a large quantity of logwood seed was brough from British Honduras, which country grows the highest class o logwood. The number of seeds actually brought was 2,300,00 or thereabout, and these were distributed here. Some of the tree that grew from these seed must be ready for chipping now; unde good conditions some of these trees may have been cut already. I is safe to say, however, that as these trees grew up here and ther

among other logwood trees, and as bees are always busy on logwood blossoms when the trees are in bloom, there must have been a good deal of cross fertilisation. Probably millions of seed have been dropped from the pure Honduras trees, and millions of seed from the cross fertilised trees, and out of these millions, in each locality, where there are Honduras trees, thousands of trees must have grown up; but these cannot be yet at a stage for chipping. It would be interesting if those who remember receiving Honduras seed would observe whether there are any differences in the appearance of the leaves and trunks of the trees. It might be useful to describe the trees of the two varieties from which seed was brought from British Honduras. There are altogether 4 varieties in British Honduras, but two of these are not usually cut. The two varieties brought here are as follows:—

1st.—Tinta Maria or Yellow Dye, called in British Honduras Broadleaf. The leaf of this variety is a little larger than our Jamaica wood. The wood is straight-grained and very heavy, no gutters when sawn is yellow at first, and after exposure to the air for a little, time becomes red, the bark when freshly peeled is of a reddish colour inside. The average weight of a fully matured Tinta Maria is about 2 tons. This wood loses 5% in weight.

2nd.—Catzim or Nicaragua.—The Leaf of this variety is similar to Tinta Maria. This wood has gutters like Jamaica logwood. In British Honduras it is called scantling wood on account of the gutters; when sawn is of the same colour as Jamaica wood when ripe. The bark is whitish, smooth when sappy, and scaly when ripe like ore logwood. I cannot say what the average weight of a matured true would be, as it depends eutirely on the locality where it grows. I have seen some as large as Tinta Maria. This wood only loses from 2½ to 3% in weight. This Catzim wood and Tinta Maria were all that I saw on the wharves, and I am safe in saying that 99% of the logwood shipped from Honduras are of these two varieties.

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THE PIMENTO SCALE INSECT.

We have previously referred to the Scale Insect of Pimento trees which was recently brought to the notice of the Government in the reports of the Entomologist, Mr. Ritchie. This insect is one new to science and is to be known in future to the scientific world as *Odonaspis pimentae*. From specimens of pimento trees, trunks and bark exhibited at his lecture to our Instructors by the Entomologist, it should not be a difficult matter for anyone to readily detect a tree affected by this pest. Normally the pimento trunk has a *smooth silvery brown bark* which is periodically shed in *long narrow strips*, and the tree presents an attractive appearance on which visitors to our Island often comment—indeed a pimento walk is a most pleasing sight. With scale infesting *the bark of the trunk and larger branches*, the bark becomes *discoloured, irregular and warty*, and *is shed in small irregular pieces of two to three inches or so*. The parts affected are thickly dotted over with *minute dark plum coloured nipple-like bodies* which are the adult scales which protect the soft sedentary underlying insect. Each scale or shield indicating one insect. Some trees with their trunks thickly beset will harbour thousands of scale insects. The scales affect the trees by sucking the juices and so weakening them

points

out that the scale greatly interferes with the normal shedding of th bark in the normally long strips and ultimately the tree densely en crusted by scale seems unable to shed its bark at all, being in fac *bark bound*. Trees getting into this condition cease to bear, anc stunted in growth, ultimately die!

The pest was first located by Mr. Ritchie in Hanover, but h informed us at his lecture that while on his recent first visit to St Ann in connection with the Hornfly, he found it also bad on th pimento of the inland uplands of the parish.

Scale insects are amongst the worst of our pests here in Jamaica and abroad and cause agriculturists the world over no end of worry and expense. Their work upon the trees is no doubt slow, but the end in most cases is sure, namely the ultimate triumph of the pes after a period of unprofitable bearing of the tree or of idleness.

Pimento does not at present bring very remunerative prices but the total value of the crop to some properties is a matter not to be laughed at or treated lightly. Many trees we thought were naturally unthrifty may be suffering from scale insect. Look around and see.

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WAR GIFTS FROM JAMAICA.

Thirty-ninth Shipment.

The following War Gifts have been contributed and despatched to the Unitec Kingdom per the Jamaica Agricultural Society during the past fortnight.

Owing to the uncertainty of the sailing of the steamers now-a-days, it was impossible to ship our usual quantity of fruit.

A. Walking Sticks.

15 bundles containing 452 Walking Sticks and 88 pairs of Crutches, to be sent to the *British Red Cross Society for the use of the wounded.*

Donor and Address.	Gift.		
M. Rennie, Falmouth	35 Walking Sticks		
E. W. Muirhead, Mandeville	268	,,	,, & 8[illegible] pairs Crutch[illegible]
Hon. H. Cork, Port Antonio	98	,,	,,
Ed. Foster, Montego Bay	86	,,	,,
Totals ..	487	,,	,, & 88 pairs Crutches

B. Clothing.

Donor and Address.	Gift.	Destination.
Mr. John Edwards, Montpelier, of the Women's War Committee, St. James, per Mrs. D. Mills, *Montego Bay*	1 Case (contg. 75 garments)	J. Navaux, Esq., Hon. Sec. Belgian Relief Funds, 32 Goswell Rd., London, E.C.
Mandeville Ladies' Working Association, per Mrs. W. W. Wynne, Mandeville.	666 Garments	Q. M. N. G., London.
The Mandeville Branch The Upward & Onward Society, per Mrs. W. W. Wynne, Mandeville.	98 Garments	Q. M. N. G., London.

C. Citrus Fruit.

Donor and Address.	Gift.	Destination.
Mrs. W. W. Wynne, Mandeville	8 boxes Grapefruit	212, Military Hospital, Norbury, S.W.
do	8 boxes Grapefruit	The Star and Garter Hospital, Richmond
Hon. A. H. Miles, Kingston	5 boxes Oranges	Boscombe Military Hospital, Ashley Road, Bournemouth, Hants.
Miss Walter, Half Way Tree	2 boxes Oranges	39 Casualty Clearing Station, B.E.F.
V. E. Manton, Mandeville	3 boses Oranges	Queen Mary's Hospital, West-End-on-Sea.

GENERAL GIFTS.

Donor and Address.	Gift.
A. F. G. Ellis, per A. C. Westmoreland, Annotto Bay	50 boxes Grapefruit
Miss Anna Crossley, Buff Bay	2 boxes Grapefruit
Thos. Powell, Mile Gully	2 boxes Grapefruit
Hon. Geo. McGrath, Ewarton	16 boxes Oranges
H. F. D'Aguilar, Chapelton	30 boxes Grapefruit
Nurse H. A. E. Beckford, Enfield	2 barrels Grapefruit (repacked into 2 boxes
J. L. Murphy, Half Way Tree	10 boxes Grapefruit.

FORTIETH SHIPMENT.

The following War Gifts have been contributed and shipped to the United Kingdom per the Jamaica Agricultural Society, during the fortnight ending January 29th, 1917:—

Donor and Address.	Gift.	Destination.
Ladies' Working Association, per Mrs. Hobson, Cross Roads	597 Garments, Pillows, etc.	British Red Cross Society, 83 Pall Mall, London, S.W.
do	77 do	do
do	177 New Garments, 281 Worn	J. Navaux, Esq., Hon. Sec. Belgian Relief Funds, 8 and 9 Chiswell St., London E.C.
do	22 Garments, etc.	do
do	1099 Hospital Bags	Lady Smith-Dorrien, 21 Eaton Place, London, E.C.
The People of the Jamaica Evangelistic Mission, per Mrs. Jas. Johnston, Brown's Town	3,000 Cigarettes	St. Dunstan's Hospital, London
do	3,000 Cigarettes	1st Southern General Hospital, Birmingham
do	3,000 Cigarettes	Royal Herbert Hospital, Woolwich.
do	1,000 Cigarettes	Southwood Hospital, Eltham, Kent
Jas. Corbett, Ocho Rios	7 lbs. Tobacco Leaf	The Over-Seas Daily Mail for soldiers in general.
Mrs. Craig, Chapelton	About 135 Novels, etc.	The North Sea Fleet.
Robert Craig, Chapelton	1 Case King's Ale	To be sold at auction for the benefit of the Fleet.
Robert Craig, Chapelton	50 boxes Oranges	S

Mrs. W. W. Wynne, Mandeville	8 boxes Grapefruit	212 Military Hospital, Norbury S.W.
do	8 boxes Grapefruit	War Hospital, Dundee
Mrs. and Miss Scharschmidt, Shooter's Hill	5 boxes Grapefruit	Hospitals where Canadians are lying.
Mrs. Glanville, Mile Gully	2 boxes Grapefruit	Military Hospital, Ashley Rd. Boscombe, Hants.
Mrs. Glanville, Mile Gully	2 boxes Grapefruit	Mort Dore Military Hospital, Bournemouth, Hants
do	1 box Grapefruit	St. Johns' Ambulance Brigade Hospital, Bordogan Rd., Bournemouth, Hants
Hon. Geo. McGrath, Ewarton	30 boxes Grapefruit	Any Hospital
A. F. G. Ellis, per A. C. Westmoreland, Annotto Bay	50 boxes Grapefruit	Any Hospital

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SEASONABLE HINTS.

The greatest planting season of the year is between the middle of March to the middle of April, when we expect good seasonable rains. Lands however, should be prepared long ahead. It is the greatest mistake to plant anything in rough lumpy soil. The most important crops to be planted at present are food crops, but of all food crops we would say the most important is corn. We hope all members of Branch Societies will take care to plant good seed, the best they can get. It is always better for a grower to select from his own seed corn if his crop is good at all; if he has no corn then he should try to get the best grain from his neighbour making sure it is selected according to what we have so often written about in the JOURNAL with regard to the selection of seed corn. Branch Societies can get selected seed corn from us at 10/- per bushel.

Bananas will again be available from the month of April on, increasing with each month, and no matter what kind of bunches come in first they will be greatly appreciated for local food. The use of green bananas and ripe bananas will relieve to some extent the demand on yams and as these also will be coming in, in increased quantities from now on, the local markets should be well supplied.

After corn the most important food crop is yams of every variety. Unfortunately the heads are very scarce in some districts and to get them from far away districts is very expensive, but we are trying to arrange to transfer quantities from districts where heads can be got to districts where they are needed.

The crop that there is plenty of, and will continue to be plenty of, is sweet potatoes. These are easily grown, stand the dry weather well, and give crops in a variety of soils. They were very largely planted after the hurricane of August last to produce food crops quickly and we distributed large quantities of slips got from the Prison Farm. Unfortunately the heavy continuous rains made them run to vine to a large extent, but with the dry weather of December and January the growth was checked and crops are turning out fairly well. Every available piece of land not useful for any other crop can be planted with sweet potatoes.

We have a communication from the Food (War) Supply Committee of the United Kingdom asking whether sweet potatoes, cassava and bananas can be exported shortly. We are of the opinion that Jamaica could export large quantities of potatoes with proper organization. We do not know what will be the outcome of this yet, but we shall be disappointed if we cannot do anything.

In the planting of sweet potatoes it is a common fault to mix the varieties; this should not be done even if they are varieties that take the same time to mature. Some varieties are fit to be lifted in 5 months, some take 6 up to 9 months. It is evident, therefore, that when the early and late varieties are mixed and the earlies are fit and being lifted, the late varieties are not half fit, and thus there is a great loss.

If it is at all possible sweet potatoes should not be grown repeatedly on the same land otherwise various pests and diseases are encouraged; nor should any other root crop be grown after the sweet potatoes. Either peas, beans or corn should be grown, and if the land is not suitable for these grains, it should be allowed to grow up in grass and stock fed on the land.

Guinea corn is a crop that is not planted enough and the objection to it is that birds eat it so much. The reason is because so few plant it in one locality. It is especially useful in districts subject to long dry spells as it is a drought resisting crop. It has the advantage that if the plants happen to be damaged by stock they grow again and after the first crop is reaped, new plants spring from the roots (ratoons). The larger the plants the larger the crop of grains

There are other kinds which only take 4 to 5 months to bear as for instance Red Durrha and Feterita, but they do not give such large crops. Unfortunately not much seed is available of these two kinds. We have plenty of the white Jamaica kind.

Peas and beans of all kinds have been scarce since the hurricane of August last and at time of writing are still scarce. We have large orders from Branch Societies for Red beans (red peas), but we have not been able to get large enough supplies. We have had to import fresh supplies of Red Kidney beans and Cowpeas.

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POTATOES.—This paragraph refers to Irish potatoes. The price of imported seed is just double pre-war price, and yet growers have been eager to get seed as we are sending out about the same quantity as usual. Seasons in the lowlands were very unfavourable in November as it rained the whole month continuously and land could not be prepared; the rain stopped suddenly, and we had December and January dry, so that planting was risky and so, not many planted Irish potatoes in the cool weather. The planting season in the uplands is from the middle of February to the middle of April, but March is the best month. This is a crop which requires manure and plenty of it to give best returns. As a rule the drills are made too shallow; they should not be less than 5 inches deep. The potatoes should be covered 4 inches; when planted shallow there is not a good bearing and the potatoes are apt to get green by exposure to the sun. This is a crop that is much benefited by mulching; the mulch should be applied when the plants are 3 or 4 inches high and after the soil between the rows has been weeded if necessary and lightly broken up, not close enough to the plants to disturb the roots—between the rows the forking can be deeper. Mulching will carry potatoes through without a drop of rain.

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VEGETABLES—More vegetable seeds have been planted this year than usual; there has been quite a large demand. We know of one bad fault that is always appearing in garden operations.; that is when the weather is dry and watering requires to be done, the plants should be watered properly; they are usually sprinkled so that the earth is merely damped whereas it should be soaked. It is better to take a part of the garden each day and soak the soil thoroughly rather than sprinkle the garden every day. If a little of the surface soil is scraped up it will be easily seen whether the soil is soaked or not. The soaking should be 2 inches deep at any rate. When garden crops are mulched one watering a week is often sufficient. Mulching should always be practised on sandy soils. Curiously we have not heard of such a large number of insect pests; troubles have been more of a fungoid nature.

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COCOA PRUNERS.—No readers of this JOURNAL should employ any itinerant cocoa pruners—the man who goes about saying he has been employed to Mr. so and so (some well known cocoa planter). We hear of itinerant cocoa pruners who get a big fee from men who must be very ignorant because they can always refer to the Agricultural Instructor for advice. The itinerant cocoa pruner carries a few tools and tries to impress on the ignorant growers that he possesses some mysterious power which he calls magic. No one should employ a cocoa pruner who is not able to show a Certificate from the Agricultural Instructor for the district.

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COCONUTS.—A good lookout should be kept for coconut trees that are not thriving. Whenever leaves are noticed falling over in a way they should not do, a boy should be sent up to have a look at the growing bud (cabbage). If this is beginning to rot and smells badly, suspect a case of Bud Rot Disease. The treatment to prevent this is to spray with Bordeaux Mixture. Bordeaux Mixture is made of white lime and bluestone, but if there is no bluestone handy, an application of Jeyes fluid solution (2%) would help to control the insects that usually infest the rotting bud, and a quart coarse salt in the bud should be tried to check the rot. If the case appears to be a bad one, the trees hould be cut down and the top at least burned. All the other trees should be treated at once as Budrot spreads easily.

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COFFEE.—In the lowlands coffee was already in blossom the end of January and beginning of February. Seasons have been very favourable for a good blossom. A good lookout should be kept for any disease and any tree badly attacked should be rooted out and burnt and a quart of lime put into the hole. Any trouble affecting coffee should be brought to the notice of the Agricultural Instructor at once. Coffee is one of the crops that has received very scanty attention of late years because the price of coffee was not favourable, but it is an indispensable crop for many districts because there is no other to take its place and as prices have improved steadily it is worth the time and labour expended on it. When the soil is baked hard between coffee trees what is called vertical forking should be done. Instead of turning over the soil as in ordinary forking, drive down the fork in the soil and simply shake back

POULTRY NOTES.

CHICKENS.—The hens should not be taken off the nest after the eggs begin to chip. If the eggs were fresh they will hatch out within 6 hours of each other, but if some of the eggs were a week older than the others they will take longer to hatch—generally 12 hours after the first egg. Do not be in a hurry to remove the hen and chickens from the nest. Raise the hen gently from the nest and if there are any eggs left not chipped 12 hours after the first chicken is hatched, take these eggs out; take up each one, holding it away from the person (in case it is rotten and bursts) and give it a chip at the broad end. If the egg is found perfectly clear, it was infertile, and any eggs of that kind can be boiled, the yolks and whites crumbled and mixed with some bread crumbs, oatmeal or cornmeal and fed to chickens. Eggs that are found smelling badly—ordinarily called rotten eggs—have been fertilised, but have not been able to develop chickens from some cause or another. These causes we have given in this JOURNAL several times, but we mention some of them again. The eggs might be too old or have been kept a week or 10 days and have not been turned each day, or have been exposed to breeze and the moisture dried out of them; the hen might have too many eggs so that some have been too much exposed and got chilled; possibly the hen or rooster might have been sickly; probably the eggs may have been shaken too much in transit and the germ injured; the hen may have been too long off the nest, although an hour or two or even a whole day in this climate would not destroy the germ. Sitting too closely sometimes harms the eggs also—the hen should always be off every day for at least quarter of an hour.

Just before the chickens hatch the remaining yolk in the shell is absorbed, and the chickens are able to go without food for at least 36 hours after hatching, and therefore there is no hurry in feeding chickens after hatching. Some people fuss and worry over chickens going without food after they are hatched; no harm will come to them if they have not had food for even as long as 48 hours after hatching. The hens generally know when to step off with the chickens. Young chickens should be fed first on a piece of board or grass turf so that they may not pick up dirt with their food. If chickens are placed in a coop, and this is placed on a grass common or lawn and kept there for a week, then it is found the chickens are not thriving or developing, this is often a mystery to the owner. The reason for this, is that young chickens must have grit which they do not get on grass. We have seen little chickens pick up little sharp stones a few hours after hatching. Grass is necessary, but there must be also sharp grit available. The best first food we have ever found is coarse Scotch oatmeal, but this is at present very expensive. Ground corn is not suitable food for young chickens; it is too hard of digestion. As a first food the whole oats which are got in packets is very good, but these are also very expensive. Corn ground fine into meal although not so fine as corn meal, then baked into a pudding and crumbled up makes good food. Where butter milk or separated milk is available this can be mixed with the food and make thus an excellent diet, but meal must not be fed in a sloppy form. Duck ants can be fed from, say the third day. An excellent food for chickens is coconuts after the oil has been expressed—what is usually called coconut "trash," but this cannot be fed alone, only a little at a time along with some other food. All those who are raising a large number of chickens should buy coconuts and express the oil for use in the kitchen, and use the trash for chicken food. Those interested in this cheap form of food should refer to an article in this JOURNAL, on the making of coconut butter.

When the chickens are a week old they can be fed with fine ground corn, but the diet should be varied. Imported food—wheat, bran, middlings, hulled oats and so on, are the very best of food, but they are expensive at present. Wheat bran should not be fed alone; a mash made up of one part wheat bran, 2 parts middlings and 2 parts corn meal is an excellent soft food which the chickens may get when they are a month old. If no cornmeal is used 3 of middlings to one of bran is a good proportion. Instead of wheat bran we use rice bran when we can get it and it is quite as efficient as wheat bran. Native brown rice can be fed to chickens, but this is also expensive. Only a little dry rice should be fed at a time as rice swells enormously—better to parboil it. At the present time food stuffs are so dear that poultry on any scale can hardly pay at all, unless where horses and mules are kept, when the waste from these are utilised for the fowls and chickens. Still as eggs and fowls are indispensable, a certain number has to be raised. Scraps from the table crumbled up make excellent food. After the chickens are a month old they will have at present to take "pot luck" and feed on whatever the fowls get, making sure however that no whole corn is fed, but only ground corn. If the little chickens take up whole corn they will surely get indigestion. The symptoms are, the little chickens have a huddled up appearance, refuse food and their crops stuffed full. The treatment for this is to get a half teaspoonful of sweet oil and work the crop gently with the ...ds,

YAWS.—Yaws is a great curse to young chickens here, yet we have raised hundreds without signs of this trouble. What we call yaws is elsewhere called chicken pox or sore-head. In the Hawaiian Islands where it appears that this disease has been very virulent, and has caused a great deal of loss, a vaccine has been prepared which has been found to be very successful. The germs of yaws are probably in most chickens, but the conditions that develop it may be included in the one word 'dirt.' Chickens are fed on foul ground where they pick up dirt along with their food. If the hens are allowed to go to sleep in the same place night after night, which is not kept clean and disinfected, the chickens will in all probability develop yaws. When this trouble breaks out, the first thing to be done is to make conditions favourable. See that the hens sleep in a clean place, put Epsom salts in the water once a week for the chickens to drink, and paint the eruptions with tincture of Iodine.

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A correspondent wrote us that he could not get his fowls to lay, although they were well fed, and the hens seemed in good condition. He could not also get good hatches when he set his eggs. We advised him to encourage the fowls to take advantage of their free run and not to allow them to feed near the house or the kitchen; to put their nests in a secluded place, and put nest eggs in them; to see that they had water kept in a cool place in which once a week 2 tablespoonful of Epsom salts in two quarts of water were dissolved. All this is to be found in our "Hints on Poultry Keeping," a copy of which every householder should have. Only 3d.

We publish his letter in reply:—

"Many thanks for yours of the 5th inst. herein, with Nest Eggs and "Hints on Poultry Keeping."

I noticed that my chickens did hang about the kitchen al day long, hut it did not occur to me how to remedy this until I had the hints from your book. They are now fed at different parts of the curtilage daily about 5 chains from the house, and they do not stop near the kitchen at all, but run off to feeding places as soo as they are let out of the coop. I have been also giving them Epsom Salts in their water.

One hen has just spoilt about a dozen eggs that it had been sitting on in a box on a raised platform, but I will adopt your hint about sitting them in boxes in future on the ground. I am pleased to report that one hen has begun to lay in one of the boxes with a nest egg; I think another will soon start laying."

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STOCK NOTES.

NODULAR DISEASE OF SHEEP.—Sometimes sheep apparently in perfect health die suddenly, from no obvious cause. If one of these animals is opened, there may be found—as one correspondent puts it—curious kernels on the outer side of the intestines called variously guts or bowels, filled with sandy-like matter of a greenish colour, very sticky. This trouble is caused by a parasite which is a thread-like worm commonly known as the nodular worm, from the fact that little nodules are produced in the intestines. These nodules vary in size up to a pea; they are found both in the small and the large intestines, and sometines in very bad cases, in the lymph glands and liver. In the nodule there is an embryo surrounded by this cheesy pus. Bye and bye the worm hatches out and passes into the intestines and then is voided with the faeces. The nodule then shrinks in size until it is quite small and is filled with earthy looking material. The animals infested are sheep, goats and cattle. The symptoms are the fleece may appear dry, parts of it may even fall off; there may be diarrhoea, general debility, sunken eyes, anaemia, emaciation and death. Under very good conditions animals may suffer badly from this nodular disease and die in apparently good condition. The treatment is to give salt and sulphate of iron. This medicine will create such conditions in the digestive tract as to make any part of it unfavourable to the development of the worms. All stock should be accustomed to a salt lick and when they are so accustomed any medicine can be given through the medium of the salt very easily. The patent medicated bricks now sold are very useful for this purpose.

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There are owners, overseers and headmen of estates who never read about their business. They may read the newspapers, and possibly some magazines, but they do not read books about stock and agriculture in general, and apparently do not read this JOURNAL. Now and again we come in contact with some who apparently are living unaware of what is happening in the agricultural world of the present day. Some disease breaks out among their stock or their trees, and they are utterly at sea as to what to do about it. For instance, they do not know that there is a Contagious Disease Animal Act, nor a Protection from Disease Plants Law. Some do not know there are Agricultural Instructors, and they cannot have even read the

Branch Societies published from day to day wherein numerous references are made to Agricultural Instructors and the JOURNAL, and what is being done at the present time in agriculture here. At a pen the other day, an overseer did not know that there was such a thing as vaccine for Blackleg, and had never heard of Blackleg Pellets or Blacklegoids advertised in the newspapers and this JOURNAL for some years. Again, Cooper's Cattle Dip is very largely advertised, and a great deal has been written of it in this JOURNAL and in Branch Notes, yet here is a letter we have received:

"Can I get some Coopers Dip for ticks in Kingston?

Can Coopers Dip be used as a "wash" with a piece of cloth. I suppose the hand sprays are expensive."

We have written over and over again in this JOURNAL of the various washes to be used for killing ticks. The Department of Agriculture has published a good deal on the subject of tick control and advertised the Department wash which is composed of arsenite of soda and paranaph.

We have written a good deal about spray pumps, and described them. The hand spray pump for a few cattle, the pneumatic spray pump for small herds, the bath spray and the dipping tank for large herds. The price of hand spray pumps has largely increased of late, but they can be had around 20/-. In these trying times it behoves everyone to brace himself up and be on the alert for useful knowledge.

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COOPERS DIP.—A correspondent writes as follows:—

As requested I write to say that I began using Cooper's Dip for my own cattle before there was ever any mention of it by our Society or the Department of Agriculture when Paranaph Dip was being strongly recommended.

I found the Cooper's Dip so much more easily handled, and so very effective, that I preferred it, and got my brother-in-law and others to try it.

It is used by a good many of the planters round here. I have never had the least trouble with it from variations in its composition or mixing powers. I have found it drop ticks like a shot and have never noted any adverse effects on stock from its use.

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GARGET—A correspondent writes: I read with great interest your article on garget in cows. But my trouble has chiefly been especially with Jersey heifers that the breasts get swollen before the cow calves, and by the time the calf is born the teats are so enlarged that the calf cannot suck, the cow is afraid of being handled, kicks and gives a great deal of trouble; the process of reducing the breast is a troublesome, tedious expensive one, and the calf suffers from want of milk unless it gets it from another source.

Is there no way of *preventing* this state of things?

Preventive treatment is much the same as the curative. Give the cow a dose of Epsom salts a week before calving, bathe the udder and massage gently, drawing the teats very quietly at the same time; anoint the udder with warmed castor oil or melted lard. Whenever the cow calves repeat the dose of Epsom salts allow plenty of water, and while the udder may be swollen it should not be painful, or if so, remain in that condition long. If a cow is given to having garget, let the calf suck at short intervals for three days instead of taking it away at once. The calf can do the massage treatment with its wet nose better than the human hand can.

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PROVED BREEDERS BEST.—"Animals of proved merit as breeders are the best foundation stock. Our breeding work is coming to a point where this factor of proved worth receives greater recognition. The common custom of selecting animals for the breeding herd mainly on individual excellence, or that and the high merit of the parents, does not carry discrimination far enough. It falls short of weeding out all the chances for failure that can be escaped.

At the Maine Experiment Station this principle was first conspicuously proved in the effort to develop a race of hens laying 200 eggs a year. They bred only from 200-egg hens for 9 years and at the end of that time the average egg production was actually less than in the flock at the outset. Another beginning then was made on a new basis of selection. The breeding stock now includes those hens whose daughters are high layers and the sons of such hens, and success seems quite probable. The ability to produce high layers is a more reliable standard of selection than merely high-laying capacity.

With all the breeds there has been too little appreciation of the old proved matron and the old proved sire. Some conspicuous instances of their selection and preservation prove the wisdom of the practice. Some of the greatest strides in beef cattle breeding have been made that way. And doubtless the breeders re- [illegible] would

In following this course we shall still keep on trying young animals. Some of these will prove to be great breeders; some will be less conspicuously successful; some will be failures. But the greatest and surest strides in improvement may be expected from the careful mating of animals known to reproduce the best features of their breed in uniform measure and similar pattern. Such work in this line as has been done indicates that the surest way to produce show-Shorthorns, for instance, is to mate the dam of show stock with the sire of the same type of show cattle."

The above is from the Breeder's Gazette, Chicago. We have written to the same effect pretty often. It should be an invariable custom to keep proved breeders of good stock until a mature age. We have now several hens of 5 or 6 years old which have always laid well, and their eggs have always hatched hardy and healthy chickens of the same type. No matter what the record of a cow or hen might have been as a milker or layer, if the progeny is not constitutionally strong, they should be not kept as breeders.

A correspondent of the Rural New Yorker is author of the following:—

"My Red hens finished their college course and got home early in November. Along with them came the record, such as the boys and girls bring back. This is the way it finally came out:

Hope Farm Beauty	118	Pocahontas	128
Scarlet Runner	121	Rose	161
Bergen Co. Belle	130	Polly	234
Mary Jane	87	Betty	125
Bronze Girl	141	Betty M	209

"After looking it over I concluded that college education had at least been a success in proving that Pocohontas, Betty, Hope Farm Beauty, Scarlet Runner, Mary Jane, and Bergen Co. Belle are failures. So they will promptly round up their career in the frying-pan. My conviction is that 75 per cent of the hens we might find in a day's journey fail to lay 10 dozen eggs per year. Yet what is the use in breeding from such birds after you find them out? They and their descendants are kept through ignorance—we do not know their record. When we do know it we are ignorant ourselves if we keep them going. So these failures will go into the only success of which they are capable—the frying-pan, or chicken pie."

What a lot of people are keeping cows and hens who are perfectly content not to know the things they should know.

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REDUCING TICK TERRITORY.—The entire state of California has been freed of cattle ticks and released from quarantine. During the 10 years since 1906 the tick area has been reduced 40 per cent. In all 294,014 square miles have been freed from ticks and there still remain 434,529 square miles under quarantine restrictions. The ticks have been entirely exterminated in four States. Much of the early work was of experimental and pioneer character. It progresses rapidly now for the system of management and dipping has been worked out in detail and its efficiency proved in practice.

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COMMENTS.

COCONUTS.—What is called Bitten-leaf Disease is now very prevalent and spreading in Portland. The Government Microbiologist mentioned this disease in his notes published in the JOURNAL, and which are re-published in the form of a pamphlet, price 1d., from this Office. We venture to say that two-thirds of the owners of coconut trees representing many thousands of pounds value, have not a copy of this pamphlet, and have not read it.

Each owner, overseer, and headman on any property growing bananas, cocoa or coconuts, should have a copy. Only one penny.

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COTTON.—The West India Committee Circular in dealing with the cotton industry of the West Indies, says:—"Those West Indian planters who decided to maintain their acreage under cotton in spite of the gloomy outlook as to prices at the outbreak of war must be now congratulating themselves."

the war,

of this year it was quoted at 12.51d. per lb. The United States Department of Agriculture gave the condition of the cotton crop in the Southern States as being reduced to 65.3 per cent (100% normal crop).

The United States is also using more and more of its own cotton so that the supply position is full of anxiety for the cotton spinners in Lancashire, who are dependent on the United States for over 80% of the cotton they require.

There are also many new cotton mills ready waiting for the time when they can procure machinery to commence operations. A return to peace conditions will probably cause a great demand for raw cotton and cotton goods. Egypt, which figures next to the United States in supply, have also a smaller crop than usual. There are good prospects therefore of good prices for Sea Island or any other good cotton produced in the West Indies, but Sea Island is a West Indian specialty. It is a great pity therefore as we mentioned in the NOVEMBER JOURNAL that Jamaica has not been helping in the production of Empire cotton.

The next planting season for cotton is in August, say from August 15th to September 15th, if seasons allow. It would be necessary to import seed again and we guarantee that the greatest precaution will be taken this year to prevent any accident to the seed anywhere between the point of despatch and delivery to the planter. Land for cotton should be prepared early; we suggest that it should be prepared in March and planted with cowpeas before the 15th of April; if seasons admit of planting in August the cowpeas should be turned down when in blossom. If there is a likelihood of seasons not admitting to plant until September the cowpeas could be allowed to mature and a crop reaped. If, however, the cowpeas are planted in March the crop could be reaped in July and the land be ready for planting in August. In these times it is better if possible to secure a crop of the peas rather than turn them in when in blossom.

We think it the bounden duty of those with suitable land and in suitable districts to plant some cotton this year; with fair seasons good crops should result and good prices are assured.

The question of labour always crops up, but labour for picking cotton only needs to be well organised to secure plenty of women, girls and small boys to do the picking. One cotton planter who has kept steadily at growing cotton since 1907 has never had any particular trouble in getting his cotton picked over as much as 100 acres of cotton.

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RICE.—Jamaica has not done what she ought to have done in the production of rice of which we imported in 1915 £105,988 value. Rice is a food which is indispensable; it is used in every household, rich and poor alike. As a food supply it is an invaluable crop, and it is further valuable as it is grown on lands that are otherwise useless—morass lands of which we have an abundance here.

Many years ago, if we recollect rightly—1899 or 1900—Mr. R. H. Lindo started growing rice near Falmouth but gave it up as not being profitable. We dare say that if it had been experimented with persistently it would have been profitable, not so much probably grown on a large scale by himself, but giving out the land to East Indians who cultivate the rice and buying the crop from them as has been done of late years in Westmoreland; later on creole labourers learn from the East Indians to grow the crop also.

Machinery can be had at all prices for small growers reaping only a limited amount. A hand thresher can be purchased for as low as £20 with a capacity of about 1,000 lbs. of rice grain in 12 hours. Then there are various cheaper makes of Hullers, and hand power Hullers can be got for the smaller growers costing only about £1 to £20.

There was a full article on the rice industry in last JOURNAL, to which we would refer readers.

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PESTS! LOOK OUT!!—At his lecture to the Instructors, Mr. Ritchie, the Entomologist, exhibited a number of insect pests not yet with us in Jamaica, but if we are not all the time careful, likely to be introduced. From our near neighbours in Trinidad, we were shown the Cocoa Borer—a beetle which burrows in and destroys the wood of cocoa trees, and the sugar cane Froghopper which present in enormous numbers by its sucking reduces cane to little greater didimensions than guinea grass—a very serious problem indeed.

From the East (Straits Settlements) we were introduced to the notorious Rhinoceros Beetle and the Palm Weevil which by their destructive attacks on coconuts have caused much legislation to be passed for treatment and control to render the industry at all profitable. In connection with the proposed introduction of horses for breeding purposes from the South Western States of America the Entomologist passed a word of caution regarding the careful examination of the ears of all stock coming from this point for a most troublesome pest with which he had experience in Texas. The Spinose Ear Tick, which locates itself in great numbers in the folds of the ear of cattle, horses, etc., the injury leading to lopped ear or screw worm or other maggot flies may blow the sores made by the ticks and lead to no end of trouble. It seems then that our insect troubles even though great might be considerably worse and our Entomologist again emphazies the point that *protection against introduction of pests from without ought to occupy a front plank in our agricultural programme!!*

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SPECIAL COMMITTEES.—At the present time, we have several important special committees at work in connection with the Society, to consider special subjects. One of these is the Sugar Industry Committee; a second is the committee considering the subjects in connection with the Economic Conference of the Allies—matters of vital importance to the British Empire; and little though Jamaica is, it is still necessary that every part of the Empire should forward its representations, so that when arrangements come to be made with regard to the trade and commerce of the Empire, the Imperial Government will be able to adjust commercial arrangements with the view of dealing as fairly as possible all round.

Another special committee appointed this month is the Food Supply Committee.

Such is the state of the world's affairs at the present time, that we cannot judge, and the wisest and shrewdest men cannot foresee, what is likely to happen from week to week. Still from time to time and promptly we must do all we can which will help what is

SEEDS FOR PLANTING.—We were fortunately able to make arrangements for the importation of seed potatoes, because space for freight was ordered very early, that is so far back as last August. Altogether we have imported 300 barrels from October. Scores of people came in at the last moment asking for seed potatoes which we could not supply. We gave ample warning in August and September last as we usually do that we should have orders early, but especially in these times. "Irish" potatoes are about the quickest crop to mature that we can grow—10 to 12 weeks, provided one knows how to grow them, has suitable land, and a suitable climate to plant. In the lowlands they can only be planted from November to February. In the higher elevations, say from 1,600 feet up, the best time is between the middle of February and the middle of April at the latest. Unfortunately, the seasons in November were such that hardly anybody could prepare land in the lowland to plant, and in the uplands, owing to the high price of seed potatoes, intending growers have hesitated to make up their minds to plant, so that the planting this year is just about the same as during the pre-war year, instead of being ten times more as we hoped. At the last moment, more would plant, but seed is not available.

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LOGWOOD.—With reference to the article on logwood on page 57 of the JOURNAL, since writing it we have learned from one of those who got the Honduras seed in 1897, that the trees have grown with gutters just the same as our own.

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PIMENTO SCALE.—To the special note on this subject on pages 58 and 59, we would add that it is not positively determined yet that this scale is the primary cause of so many pimento trees dying in one district of Hanover. The Microbiologist's investigations show that there is a fungus disease of the roots, which he thinks is the primary cause, the scale being the secondary cause of course, hastening on the death of the trees. Further investigations are required to prove what is specifically the primary cause.

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JOURNAL.—We express our greatest regret at the lateness of th appearance of the JOURNAL for December and January. It is no our fault, but through delays in the printer's office. If one JOURNA is late, the others following are also late, as it is difficult to make u time. No one can be more annoyed than the writer, who is responsibl for the publication of the JOURNAL, and who has always attempte to have articles up to date so that readers may know what seeds w have in stock, and read hints for planting, etc. When the JOURNA is late, this is often of no account.

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BUTTER.—At the present time when imported butter in tins cos 2/3 per tin of 14 ozs., in Kingston, and as much as 2/6, even 2/8 in the country parts, and while locally made dairy butter sells at 2/3 but is in very limited supply, and while we import cotton seed o and margarine, we have an economical means of providing ourselve with butter which can be prepared so that it is perfectly palatable to be used in place of dairy butter, and certainly a first-class articl for cooking purposes, and making cakes, etc., and that is cocon

We have often written that one of the chief needs of Jamaica is some local manufacturing industries and one of the most practicable is a factory for utilising coconuts for the making of coconut butter, coconut oil and soap.

There is a paragraph on pages 49 to 50 which shows how coconut butter can be made in the same way as dairy butter. This is not theory, as we can place before anybody, home-made samples of coconut butter, which is quite on a par for quality with dairy butter. In Kingston, large coconuts cost from 2d. to 3d. each; in nearly all parts of the country, except at considerable elevations, there are coconuts at the present time selling at 8/- to 9/- a hundred. One trial of 10 coconuts costing 2d. a piece in Kingston, gave 2½ lbs. of butter, but these were specially fine coconuts and evidently rich in fat. In addition, there is always the coconut "trash" or coconut meal which is used for feeding fowls, and is especially valuable for feeding young chickens. It is certainly worth 3d. a lb. at the present time for this purpose. The coconut cream should be set to ripen from two to three days according to the air temperature, in order to get a proper butter flavour.

:o:

DRY LAND RICE.—While probably 90% of the rice grown in the world is swamp rice, yet rice is raised in different parts of the world on ordinary land not irrigated in any way. A good deal is raised in India in this way, and in Nigeria and other parts of West Africa this rice is grown. At one time we had samples sent from there. In Jamaica, very little has been grown, but still as we have before mentioned, we have known of a few persons in Clarendon keeping up small cultivations. Last year, however, some enterprising growers started growing this rice at the foot of the Red Hills on the Liguanea Plains (St. Andrew), and one cultvator reaped 2½ bags from one square chain. We have rather been of the opinion, however, that guinea corn is a better crop in ordinary times for dry districts, than dry land rice, although very subject to the attacks of birds when only grown in patches, but of course as we have often said, if many people grew guinea corn in the same locality, the attacks of the birds would be distributed so that these attacks would be hardly felt.

We should like anyone who wishes to try dry land rice to write us, and we will send a packet of seed for 3d. to try.

:o:

PRESERVES.—The Imperial Government is limiting the supply of sugar to the great preserve manufacturers in the United Kingdom. All over the world are to be found jars and tins of British made preserves; they are exported in huge quantities. Little Jamaica makes sugar, and has abundance of fruits of many kinds suitable for making preserves, going to waste, yet still imports over £5,000 value in preserves. The price of imported preserves has increased of late, and will be furhher increased. Tinned butter sells at 2/6 per alleged lb. tin. The tin contains 14 ozs. There should now be great activity in every household to make preserves at home with all suitable fruits. Thousands of jars are flung away every year here. In every other dust heap you can see some. These should be carefully collected A valuable and nutritious preserve that is not seen on any table is banana jam, which corresponds in a way to what is called apple butter—an imported preserve.

The season for seville oranges is on now, and stores of marm should be made. When the guava season comes round millions of guavas are available. From May to August millions of mangoes usually go to waste. These make excellent preserves. The stewed mangoes can be put up, to look and taste like tinned apricots and peaches.

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HONEY.—The price of honey will follow the price of preserves, and if we have a good season for blossoms, apiarists who keep bees in good condition should reap a good reward. They need it, as there have been a good many bad seasons. The heavy continuous rains from August to December caused a good deal of loss, but from the beginning of December seasons have been very favourable indeed. In 1911, we exported honey to the value of £25,000—in 1913, £15,000 value. Our exports usually run between these figures.

It is curious that very little honey is used locally. Some years ago, it used to be put up in pint and quart bottles and fancy jars, but this appears to be discontinued. Many people would use honey if it was easy to get of guaranteed quality, and it should be used more freely now when the price of preserves is so high.

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LIMES.—At various times by chance we have discovered limes without seed, and in one place we have found these comparatively common. The owner of the trees does not know how he came to have seedless limes, and there are some trees that always bear large juicy fruit having no seed. These trees stand in good soil, and when they get good seasons, bear abundantly—certainly over a barrel a tree. The average yield of cultivated limes is certainly not more than half a barrel, and the lime trees that are usually grown here without cultivation do not give half a barrel. On good soils with fair seasons lime trees—not standing in pastures among long grass can be fairly calculated to give half a barrel a year. The yield of juice varies very much according to soil and seasons. Some years the limes do not give much juice, but on an average, a barrel of good limes should yield about 8 gallons of juice. The citric acid content in the juice also varies a great deal; 14 ozs. of citric acid per gallon would be a high content. From Jamaica mostly raw juice is exported. In 1915 we exported 165,206 gallons—value £16,520. The largest proportion of this went to the United Kingdom.

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ANNATTO.—Annatto is a crop which has been given very scant attention in the past because prices were not as a rule favourable to profit, but of late years, even before the war, there was an increased demand for it at a good price, and whatever district where suitable, and land available, and not occupied with any other standard crop, some of the Agricultural Instructors were directed to bring before Branch Societies the advisability of planting some more annatto, and we know this has been done, and the growing of annotto much extended. Since the war broke out, prices have ruled high. It is a crop that is easily grown, does not require the best land, and it is easily grown in the lowlands and up to over 3,000 ft. It can be planted in odd corners of a property large or small. The crop this year has not been quite as good as that of last yer, but is fair. There is a keen demand to get the product. In 1915 we exported 907,865 lbs. valued at £13,239 14s. 0d.

BORDEAUX MIXTURE.—Anyone who has difficulty in getting small quantities economically of the Sulphate of Copper or Bluestone wanted to make this important fungicide which is required in the treatment of many plant diseases now-a-days, especially in the treatment of Bud Rot and other diseases of coconut trees, and also in the preventive treatment against diseases, can apply to us. The Department of Agriculture has some in stock, so that the treatment of diseased trees may be encouraged by the chief ingredient of Bordeaux Mixture being made readily procurable. Of course cultivators can apply to the Department of Agriculture direct, also.

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BRANCH NOTES.

BROADGATE (St. Mary).—Regular monthly meeting Broadgate Schoolroom, January 3rd. Present, M. E. Henriques, President; 18 other members and the Secretary. President explained reason of Instructor's absence. Minutes of last Meeting read and confirmed. Secretary was instructed to reply to Mr. Barclay's Circular *re* Crops as follows:—1. The out put of bananas in this district will be March 100 stems per week, April 150, May 200-300, June 500. 2. Yam crop 50% of avergage crop of last three years. 3. Pease and Beans about 25% of crop will be reaped. 4. Corn crop nil. Mr. R. P. Thompson proposed three new members who were enrolled. R. P. Thompson proposed, John Dillon seconded, that D. P. Williams be the Delegate to the Half Yearly Meeting, unanimously carried. Authorised Persons reported. William Stewart and David Shaw were nominated as Authorized Persons. Secretary was instructed to call the attention of the Parochial Board to the dangerous condition of a portion of road 34, also to suggest extension of road 36. The Secretary suggested a rat killing competition. Secretary was instructed to write to Mr. Barclay asking for rat poison for free distribution.

A. N. CRANSTON, Secretary.

WALLINGFORD (St. Mary.)—Regular monthly meeting Wallingford Schoolroom, January 3rd. Minutes of last meeting read and confirmed. The question of the suspension of traffic on road No. 10 was severely criticized. The President said the Parochial Board was moving in the matter. It was resolved to suggest routes for the deviation which would obviate the likelihood of future obstructions. Resolved to bring to the attention of the Government the necessity for relief works in the district. Also the necessity for a Court House at Gayle. Resolved that a copy of the Resolution be sent to the Hon. Member for the parish.

MISS M. J. MORGAN, Secretary.

ALBANY (St. Mary.)—Regular monthly meeting, Friendship Chapel, January 3rd. The meeting regretted the absence of the Hon. R. P. Simmonds, who had promised to attend but who was indisposed. First V.P., L. S. Clark took the Chair; also present 31 other members and the Instructor. Minutes last meeting read and confirmed. Correspondence read. Resolved that the use of the Society's Boar be granted to Mr. J. A. Benjamin when arrangements were completed. The meeting acknowledged the receipt of 200 cane tops from the Instructor. The list of seeds required for planting was dealt with, and the Secretary instructed to forward same to the Secretary of the Parent Society. Mr. Philip McLaughlin exhibited sample of pease from seeds from the Parent Society which were very fine. Several members spoke encouragingly of the returns gained, but most of them complained of the damage wrought by the rain, still many said they had saved enough for re-planting. The Chairman urged the members to use all their returns for seed as the grains were so fine. Mr. Nathaniel McKenzie asked that the Society endeavour to obtain a trained Nurse for the district. D. Creightney and James Henry were elected members and paid their dues. Mr. Lakeman asked that steps be taken for the appointment of a J.P. for the district. Thomas Wellington and Isaac Jackson were nominated as Authorized Persons. Report of Authorized Persons, 5 present, two reported convictions since last meeting. They further reported that some of the Sub-Officers of the Constabulary impeded them rather than helped them in their work. The meeting ascribed this to jealousy. The Chairman stated that stealing was at its height. The Instructor urged the Authorized Persons to increase their viligance and pointed out to them that if they had any complaints to make with regard to their work or their pay they should come to the meetings and do so, and the Branch would report the matter to the Parent Society. He also stated that

if the Authorized Persons found any obstacles placed in their way it was not with knowledge of the Resident Magistrate, the Inspector of Constabulary or the Cl of the Courts, who were all very appreciative of the work done by the Authori Persons. The Instructor at the request of the Hon. Member of the parish re an article from the *Gleaner* being an interview by a *Gleaner* reporter with His Exc lency the Governor regarding the prospects of Jamaica in 1917 and the good wo of our boys on behalf of the Empire which greatly interested the whole meeti Messrs. Saunders and Clark urged on the meeting to join with those who had go before in helping to keep the Old Flag Flying. Several other members spoke the encouraging news they had received from men at the Front.

I. LUTHER SAUNDERS, Secretary.

ST. MARY (Central.)—Regular monthly meeting Eliot Schoolroom, Janua 4th. J. A. Banks, President; C. H. Abraham, President Richmond Branch; ni members, the Instructor and several visitors. Minutes read and confirmed. Co respondence read from Secretary Parent Society: 1. Acknowledging Bran Notes, December 7th. 2. Informing Branch that he would put the matter of t deviation before the Colonial Secretary. The acting Secretary tendered his resign tion, but consented to act until the end of the financial year. Authorized Perso were instructed to advise the meeting of any matters in connection with their duti which were not satisfactory. Matters for the Half YearlyMeeting were dealt wi Mr. J. A. Banks was appointed Delegate. The Instructor read an account of interview by a *Gleaner* reporter with His Excellency the Governor.

F. A. WILLIAMS, Acting Secretary.

KILANCHOLY (St. Mary.) -Regular monthly meeting Kilancholy Schoolroo January 6th. Minutes read and confirmed. Correspondence read. Resolve that the Secretary be the Delegate to the Half-Yearly Meeting, the Treasurer thoug the Delegate's expenses should be met by a subscription of 6d. to 1/-. from ea member. Agreed. A committee was formed of the Secretary, Treasurer a President to collect same. The Treasurer urged that it be recommended that Auth rized Persons be paid 3/- per day and mileage. Agreed. With regard to the Circul from the Parent Society *re* Crops, resolved that the Banana crop in this distri will be very poor until nearly the end of the year. Yams, only half the average cro pease and beans a total failure. Resolved to write the Parent Society for nati red beans, American red beas, cow pease, black eye pease and corn. To be sold members. Resolved:—That this Branch notes with satisfaction the steps bei taken by the Parochial Board to put the drinking spring of the district in a sanita condition as suggested by this Branch, also for the steps being taken to secure t road from Kilancollie to Crawle. Authorized Persons present 4; Messrs. Howe Wildman and Daniels reported one conviction each since last meeting, and M Whittaker 2. The Instructor read an Extract from the *Gleaner*, being an intervi of a *Gleaner* reporter with His Excellency the Governor regarding the prospects Jamaica in 1917. Mr. Edward Mendes brought to the notice of the meeting t necessity of a Branch Society at Woodside, Rock Spring or Stapleton. Decid to form a sub-branch at Woodside. Meeting adjourned for demonstration to M Snape's cultivation.

A. G. HUFFSTEAD, Secreta

UPPER METCALF (St. Mary.)—Regular monthly meeting Brainerd Schoolroo January 11th. Present, Chairman, Instructor, 11 members and a few visito Minutes of the last Meeting read and confirmed. The Agenda for the Half Year Meeting was read and discussed. The suggestion that the playing of Domino cards, etc., at shop places between 6 a.m. and 6 p.m. be made an offence agai the Law received the hearty support of all present. Agreed to form a sub-Bran of this Society at Lucky Hill. Instructor explained Authorized Person's La resolved that the Authorized Persons attend the regular meetings. Decided t Secretary be the Delegate to the Half Yearly Meeting. Mr. Bell reported that t Society's tools for pruning Cocoa were not being used. Agreed to add 2 goug to the stock and reduce the charges. The Instructor urged on the Meeting t necessity of assisting the Empire both in fighting and in supplying our own need The Secretary emphasised the remarks of the Instructor.

W. T. EDWARDS, Secretary.

BENBOW (St. Mary.)—Regular monthly meeting Mt. Nebo Schoolroom, Janua 19th. Present 29 members. Minutes last meeting read and confirmed. Resolv to recommend the names of 11 members to the Parent Society for appointment Authorized Persons. Correspondence read and dealt with. Resolved to ord

pease at 16/- per bushel. Treasurer's report read and adopted. The Presider explained the reason for his absence from the Half-Yearly General Meeting of th Jamaica Agricultural Society. With regard to the Circular from the Parent Societ *re* crops it was agreed that the district should be able to supply 1,000 bunches c bananas in July next. The President explained the present position of the Empi regarding the war. Resolutions *re* Bonnet and Great River roads were dealt witl V. P. Thompson moved that the Government be asked to bring the cost of registra tion of titles within reach of the peasantry. The meeting thanked the Presiden for his address. H. GUNNING BOOTH, Secretary.

CASTLETON (St. Mary.)—Regular monthly meeting Devon Pen Schoolroom January 1st. Present 12 members and some visitors, Rev. James Robertson, Presi dent. The President welcomed the members and wished the Society a prosperou New Year. Minutes read and confirmed, correspondence read in reply to Circula of Secretary of Parent Society *re* Crops Secretary was instructed to reply tha bananas would begin to come in in the month of June, yams will not be more thai 30% of an average crop. Pease, very small crop. Corn the same and not fit fo planting purposes. The Secretary was directed to enquire if St. Vincent and Renta yam plants could be obtained from the Parent Society and also to forward to Mr Barclay an estimate of the quantity of Grains this Branch would be likely to purchase for the Spring sowing. The President read extracts from the November Journal relative to the Pruning Club of the Mt. Angus Branch. Duties of Authorized Persons were discussed. Authorized Persons present, 2. A. PICKERSGILL, Secretary.

GRATEFUL HILL (St. Catherine.)—The regular monthly meeting was held in the Grateful Hill Schoolroom on Tuesday, December 5, 1916. The minutes of the last meeting were read and confirmed. Correspondence was read and dealt with. The Rev. C. A. Spencer was appointed delegate for the Half-Yearly Meeting on January 18th, 1917. It was decided to ask the Parent Society to have a ruling from the Government as to who should pay for the conveyance of goods found with suspected parties by Authorized Persons to the Police Station. *Re* crops—There is hardly likely to be an appreciable crop of bananas before October 1917. There will be a shortage of yams, yam plants, peas andc orn, growing to the incessant wet weather. A discussion took place as to whether cane owing will be profitable in Glengoffe. Mr. Gabay led for the affirmative and Mr. Coote for the negative, which won by a large majority. The meeting closed with the singing of the National Anthem. THOS. E. COOTE, Secretary.

REDWOOD (St. Catherine).—The regular monthly meeting of this branch was held in the Schoolroom on the 19th December. There were present: W. F. Bailey, President, in the Chair; A. A. Simmonds, Vice-President; N. A. McDonald, Asst. Secretary, 11 members, the Instructor, Mr. H. Leo Mossman, J.P., and a few visitors. Minutes of last meeting read and confirmed. Read letter from Parent Society stating that Messrs. E. McLean and Hyman A. Fuller who were nominated as Authorized Persons for Redwood and Berkshire Hall districts respectively, were appointed, and that they should be sent up for instructions. The Instructor gave a very lengthy and stirring address to the members dealing with the food problem. After some discussion on matters of vital importance, and the President's address, the meeting adjourned. N. A. MCDONALD, Asst. Secretary.

HOPEWELL, (Hanover.)—The regular bi-monthly meeting of this branch was held in the Bethel Schoolroom on the 5th January, 1917. Present: E. E. Melville, Esq., President, in the Chair; R. C. Somerville, Instructor; six members and the Secretary. Minutes of last meeting were read and confirmed. A discussion took place about the New Era Cow Peas with which the President promised to help to supply members. As a result of a discussion opened by Mr. Somerville *re* the advantages to be derived by getting a corn mill, and the report that Mr. Samuells, the Secretary gave of the one he purchased lately, three members agreed to purchase one each. The members also unanimously agreed that the Society should have one, for which Mr. R. McFarlane promised a subscription of five shillings. Mr. Shaw Samuells was elected to attend the half yearly General Meeting. The Secretary was advised to recommend to the General Secretary, that Mr. R. McFarlane of Unity Hall, and Mr. Henry Kerr of Watford Hill be made Authorized Persons. The Instructor addressed the meeting pointing out to the members the necessity of encouraging young men to enlist as soldiers. Meeting then came to a close.

A. SHAW SAMUELLS, Secretary.

GREEN ISLAND (Hanover.)—The regular monthly meeting of this Branch was held on the 16th January. There were present, the President, Vice-President, Secretary, and about a dozen members. The minutes of last meeting were read and confirmed. A discussion arose about catch crops recently planted, and it was found, that owing to the recent heavy rains, followed immediately by the present sharp drought, they will all prove a failure, especially peas. It was moved by the President, and agreed to by all, that at our next meeting the following discussion should take place: "Which is more profitable to the peasant proprietor of Hanover, 'The Cultivation of Yams or that of Canes?'" The meeting adjourned till the third Tuesday of February. T. C. THOMPSON, Secretary.

MALDON (St. James.)—Those present at the usual monthly meeting of the Maldon Branch held 12th January, 1917, were: The President, Vice-Presidents, Secretaries, the Instructor, Mr. Briscoe, twelve other members and a few visitors. The minutes of the previous meetigng were confirmed. As arising from the minutes Mr. R. McGhie withdrew his resolution *re* cage for fowls. Correspondence was read and dealt with. The Authorized Persons presented their reports. A resolution for the purchase of a corn mill from the funds of the Society and an amendment for purchase through private subscriptions were put to the vote, and resulted in a tie, the President declining to vote. The Instructor next gave an address on sugar cane and various food crops. He also stated that he visited 18 members fields and 3 school gardens. Special reference was made to the field of Mr. Samuel Cannol, and the economic methods he employed in manuring, etc., commented on. It was made clear to the meeting that land should be prepared thoroughly before planting. A vote of thanks was accorded the Instructor. Two members were elected. An invitation given by the President and supported by the Instructor, was offered to non-members. The amount of 8/6 was voted for expenses. The roll call, followed by the National Anthem, brought the meeting to a close.

J. T. MORRISON, Rep. Secretary.

LETHE (St. James).—This Branch held its regular monthly meeting on January 13. There were present nine members, the Secretary, Mr. J. Briscoe, Agricultural Instructor and two visitors. The minutes of the last meeting were read and confirmed. An instructive address was given by Mr. Briscoe, who dealt with the food problem and also on manuring. Mr. C. M. Scott (jnr.) read a selection from the November Journal of the Jamaica Agricultural Siciety. It was moved by Mr. C. M. Scott (snr.) seconded by Mr. T. Wilson, that the Secretary be instructed to write to the Parochial Board *re* the protection of the water of the Lethe Public Spring. After the roll call, the National Anthem was sung, and the meeting adjourned.

(Miss) S. MAUD VASSALL, Secretary.

LOWER ST. DAVID'S (St. Thomas.)—A special meeting of this Branch was held in the Yallahs Church Hall on January 1st, 1917. In spite of the holiday and the holding of a function at the Wesleyan Church, the attendance was good. The Instructor, A. P. Hanson, Esq., was present. In the absence of the chairman, Rev. Cole was voted to the Chair. The matters of praedial larceny and appointment of delegate for Half Yearly General Meeting were then dealt with, after the minutes were read and confirmed. A Committee was formed to draft a resolution to be sent to the Half Yearly Meeting touching the former, and Mr. R. A. Simpson was finally appointed delegate. This committee will meet Friday, 5th inst. The Instructor then addressed the meeting *re* the necessity for prompt preparation of the land for spring planting and for extensive cultivation. The Chairman thanked the Instructor for his instructive address, and went on to emphasize t e necessity of helping ourselves. The date of the next meeting was fixedr, and the meeting then adjourned.

M. E. BARRANT, Secretary.

TROY (Trelawny.)—The usual monthly meeting of this Branch was held in the Troy Schoolroom on Tuesday, January 2nd, 1917. Present, the President, 1st Vice-President, Secretary and 11 members, also two visitors. The minutes of the two last meetings were read and confirmed. Arising out of the minutes, it was decided that those members who had not yet purchased their quart of pease be given until the 15th inst. to do so, after which it might be sold to anyone who applied. The Secretary informed the meeting that a bill for the cost of peas amounting to £3 10/- has been rendered by the Secretary of the Parent Society. The Treasurer was authorized to pay the amount out of the funds of the Society as soon as the money was available. On application of the Secretary for a minute book it was

decided that as the year is near its close a couple sheets of foolscap paper be added to the one in use and a new book be bought to begin the new year. The meeting adjourned.

T. PINNOCK, Secretary.

PORUS (Manchester.—)A meeting of this Branch was held at the usual place on the 8th January. Twenty members, including the President, S. A. Hendricks, Esq., J.P., both Vice-Presidents, and the Secretary, were present. As the date for the meeting for January was changed from the 1st Monday in the month (New Year's Day) to the 2nd Monday, this evidently interfered with the Agricultural Instructor's arrangements, hence his absence. With reference to the submerged area in the Harmons district, the President informed the meeting that the matter is now before the Parochial Board of the parish and that a Committee was appointed to deal with the abnormal conditions arising therefrom. Mr. J. R. Ellis, one of the Authorized Persons connected with the Branch, in giving his monthly report, affirmed that praedial larceny was on the increase, but that the conditions limiting the scope of activities of an Authorized Person made it almost impossible to catch the thief. He spoke with much warmth on the matter as he himself had lately been a victim of thieves. A very interesting feature of this meeting was the judging of the long deferred donkey competition. J. A. Ogilvie, Esq., J.P., had some time ago offered two prizes of six shillings and four shillings respectively, for the best working donkey. Competitors were to be non-members of the Branch, and the winners were to be enrolled as members. Messrs. Earnest Richards and Augustus Ellis were the successful competitors; and along with two others were subsequently enrolled as members. The meeting then adjourned to the first Monday in February.

C. ROWLAND, Secretary.

VILLAGE (St. Ann.)—The last meeting of the Society was held on the 9th January, and the following members were present:—Messrs. I. Wilson, 1st Vice-President, in the Chair; 7 members, and the Secretary. After the preliminaries were gone through, the Secretary gave a concise report on the seeds received from the Hurricane Relief Fund, and their distribution. The Secretary then read a passage from the June issue of the Society's Journal on the "Burning of Lands," and led an interesting discussion on when, where, why and what crops to burn. All agreed that in many cases burning was needed for the destruction of insects and thorns and thistles. The Secretary was of the opinion that the words "scorching" or "singeing" would be better applied to the form of burning that should be done, if any. The Secretary after explaining the benefits of having a corn mill, moved that one be got in time to meet the spring crop. It was decided to circularize all absent members for a special meeting on the 20th inst., when the matter will be fully dealt with. The Secretary was heartily thanked by the Society for the interest in the Society, especially in the getting of seeds. He suitably replied. It was suggested that a debate on "Banana or Sugar-cane" which is the more important industry? be the special discussion for the next meeting. The meeting then adjourned.

GEO. J. JOHNSON, Secretary.

GINGER HILL (St. Elizabeth.)—The regular monthly meeting of this Branch was held on Friday, January 12th, when there were present, twelve members, including the Chairman and the Secretary. The minutes of the previous meeting was taken as read and confirmed. Matters arising out of the previous minutes *re* Authorized Persons were dealt with. It was decided that the appointment of delinquent Authorized Persons should be cancelled. Mr. Samuel Benjamin Plummer was nominated to be an Authorized Person. Correspondence from the Secretary of the Parent Society was submitted and dealt with. *Re* the correspondence as to the local prospects of the various crops for the future, it was decided that bananas will not be plentiful before 1919 as most of the small settlers did not have the means to put their cultivations in order after the hurricane. Yams will be very poor this year. There will be no peas and beans for planting. There will be no corn in our districts, but corn can be bought from other districts. There will be a very small crop for the Spring and Summer in comparison with the average of the three previous years. Culvivations otherwise are looking bright. The subject of the necessity for agricultural tools were discussed. The members declared that working tools obtainable by them are very expensive and yet not good, so a motion was made that the Secretary of the Parent Society be respectfully asked if he could provide some good tools to sell to the Branch. Time for next meeting was fixed for February 9th.

DARLISTON (Westmoreland.)—A meeting of this Branch was held in the ... Schoolroom on the 12th January, 1917. In the absence of the President, the Ch was occupied by C. J. Stewart, Esq. There were present 144 persons, includi members and visitors. The minutes of last meeting were read and confirmed. new member was enrolled. Mr. Stewart reported that, owing to the absence of t Inspector of Police, the Committee appointed to deal with the subject of Authoriz Persons which had met on the 24th November last, had to be adjourned for so convenient time. The two prizes offered for potato cultivation at last meeting Glen Haven by Messrs. Whyte and Senior have been improved on. Mr. Why has now kindly promised to give a first prize of 10/- and Mr. Senior a second pr of 5/-. The Instructor will visit the potatoe cultivations in February. Half t points will be given for cultivation and the other half for results. Corresponde from the Secretary of the Parent Society was read and dealt with. The Instruct after giving a fine talk on the cultivating, manufacturing and marketing of sug and corn, suggested that the Branch should buy a mill for grinding the corn gro by members and others. Following this suggestion, it was resolved that a m (costing not more than £2) be purchased from the Reserve Fund of the Socie A Committee was appointed by Mr. Somerville to make arrangements for the worki of the mill. Mr. Somerville said that at the next meeting he will give a demonstrati on the manufacturing of cassava bread. The Secretary gave notice that at ne meeting he meant to resign. Meeting adjourned to 9th March at 9 a.m., in t St. John's Schoolroom, Darliston. J. H. HEDLEY, Secretary.

BLOXBURGH (St. Andrew.)—A meeting of this Branch was held in the Chur at 10 a.m. on the 26th January, when Mr. A. P. Hanson, our Instructor, 13 memb and 4 visitors (3 of whom became members) were present. The minutes of t last meeting were read and confirmed. The Instructor then addressed the meeti on the necessity of increasing the native foodstuffs in the district, how to keep t holdings in order by good cultivation, and how to care the plants, pointing out t great misake of going abroad and leaving the cultivations here. Also how to man the land. For this address the Instructor was accorded a vote of thanks. T subject of the Loan Banks again came up for discussion. The National Anth brought the meeting to a close. S. ROBINSON, Secretary.

MT. HERMON (Portland.)—A meeting of this Branch was held on 13th Decemb 1916. Mr. A. Moore V.P., was in the Chair. Two visitors, nine members and t Agricultural Instructor, E. A. Gunter, were also present. The minutes of the previ meeting were read and confirmed. Correspondence was read and dealt with. Matt relating to the balance of cash from late Treasurer were discussed and settl Financial Statement showed that cash in Treasurer's hands was £1 10s. 3d. It w decided to send Mr. A. Tucker as delegate to the Half Yearly Meeting of the Pare Society. Resolution re Central Factories to be sent to Half Yearly Meeting w discussed and passed, as was also one re the condition of parochial road thro the district to be sent to Parochial Board of the parish. Matters respecting C Mill, Authorized Persons and the planting of more food were dealt with. It w decided to ask the Parent Society to make Branch Notes short, so that more repo can be published. It was proposed that a Penny Bank be started. The Secret informed the meeting that all the members of the Branch had got seeds. The structor gave a few hints on the sowing of vegetable seeds. It was decided that future meetings begin at 4 p.m. The next meeting is to be held on January 18 1917. H. W. HAY, Secretary

EAST PORTLAND.—The monthly meeting of this Branch was held on Thursd 4th January, 1917, at 6 p.m. The following were present: Messrs. E. A. Sherwo President; W. H. Stewart, 2nd Vice-President; six members and the Secretary. T minutes of last meeting were read and confirmed. Report of Committee to re to Circular from the Parent Society was presented, and adopted. Corresponde was read and dealt with. Authorized Persons presented their reports. The Presid tendered his resignation, stating that on account of press of business he could longer fill the office. His resignation was accepted, and a vote of thanks for services accorded him. Second Vice-President, Mr. W. H. Stewart, occupied Chair, and it was decided that the election of President be held in abeyance until annual election of officers in April next. Mr. T. A. Howell was elected Treas to fill the vacancy caused by Mr. A. Henriques' resignation. Mr. Howell was

Cooper's Cattle Dip

IS SOLD IN QUART CANS, AND 1 & 6 GALLON DRUMS.

AND IS STOCKED BY

D. Henderson, & Co., L. deCordova, C. T. Isaacs,

KINGSTON

J. E. KERR & CO., St. Ann's Bay,

S. HART & CO., Montego Bay,

C. BOETTCHER, Spanish Town.

R. K. TOMLINSON & BROS., Lacovia

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J. G. MILLER, Mandeville,

L. W. LEVY, Brown's Town,